# INDUSTRIAL EQUIPMENT NEWS

INDUSTRY'S MOST COMPLETE PRODUCT INFORMATION SERVICE

The Original IEN — Founded 1933

*What's New* IN EQUIPMENT, PARTS, MATERIALS

AFFILIATED WITH THOMAS REGISTER OF AMERICAN MANUFACTURERS

FEBRUARY - 1950

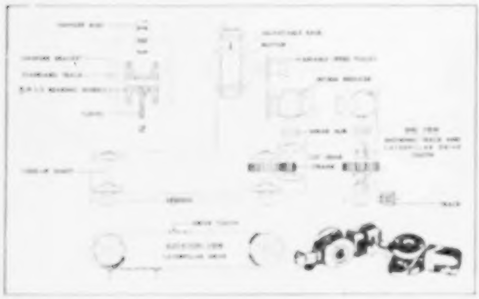
VOL. 18 • NO. 2

Product Information — for specifiers and buyers in all industries


• (BREVITY—Identify by) IEN - 1022 (in requests to the maker) •

## CONVEYING . . Overhead chain, universal links, box track, motor pusher

Source: MICHNA SYSTEMS
5049-53 S. Western Blvd., Chicago 9, Ill.



**Un-O-Veyor** trade names new design of universal-link 4½-in. pitch malleable-iron chain in which alternate links carry ball-bearing 2-in. hardened-steel wheels on vertical and horizontal planes. The latter links are fitted with eyes for load-fixture attachments and their wheels will carry loads to 200 lb. per link. The former take side thrust as in a horizontal curve in the box-section track. The assembled chain provides load support at 9-in. intervals.

**Complete equipment** available with the chain includes straight sections and curves of track with hangers ready for installation. Included also are sections in which the track is open at the top and a motor-driven transmission and finger-equipped chain assemble to engage the load chain and push it along. The drive is built to meet specified requirements for load and speed, the latter in a range between ½ and 25 fpm. Standard track section measures 2¼ by 2¼ inches. Installation can include any combinations of straight runs and curves in both vertical and horizontal planes.

• (BREVITY—Identify by) IEN - 1023 (in requests to the maker) •

## SIGNALING . . Electronic speaker and recorder repeats recorded message

Source: AMERICAN ALLSAFE CO.
1243-47 Niagara St., Buffalo 13, N. Y.

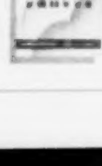
**A microphone,** a tape recorder, loud speaker and a starting trigger for actuation by contact or a photoelectric cell and light beam make up this new Saf-T-Vox equipment. It is an adaptation by the company for safety purposes of equipment developed by General Electric Company. List price is $189.50.

**Installation** is made at strategic points in a plant or office to deliver and repeat messages such as, "Wear your goggles while you still can see," "Put out your smoke in this area, it is not a good entrance to Heaven," "Good night, don't rush or push at the exit." Each message is impressed on the endless tape in the recorder magazine by talking to the microphone. Any previous message is erased by a new one that overlaps it. Any number of different or identical messages can be recorded to a total length of about 2 minutes.

**Action is started** by entrance of an individual into the control area such as that around a grinding machine and is delivered as soon as he closes the actuating contact or breaks the light beam. The action will continue until the tape has made a complete circuit and is returned to the starting point.

**Bulletin.** "Saf-T-Vox," 4 pages, presents illustrations of the equipment and of typical installations in the act of delivering messages. It includes descriptions [illegible] the component parts.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER Descriptions Ratings See Page 50*

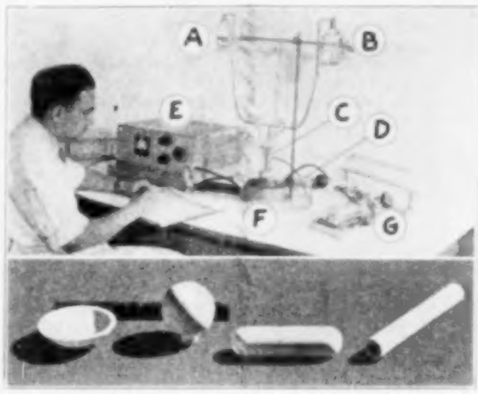
FIGHT CANCER WITH FACTS

Cancer is curable if discovered early and treated properly. There are seven danger signals by which it can be recognized in time. They are described in detail by a booklet available on request. Address the American Cancer Society, 47 Beaver St., New York 4, N. Y.


• (BREVITY—Identify by) IEN - 1024 (in requests to the maker) •

## PROCESSING . . Ultrasonic equipment processes materials by sound vibration

Source: BRUSH DEVELOPMENT CO.
3631 Perkins Ave., Cleveland 14, Ohio




**Hypersonic** trade names the company's new design of electronic ultrasonic equipment with which high-frequency sound energy is employed to perform a variety of processing operations. Representative are accelerating, agglomerating, decomposing, degassing, dispersing, emulsifying, homogenizing, mixing, oxidizing, vaporizing.

**The equipment** is available for the manufacturer who desires to do his own experimenting with the laboratory assembly shown; it is made in a pilot-plant wheel-mounted assembly for limited production. The company is prepared to work out final designs for full scale production of the basic equipment when a process has been brought up to and proved in the pilot plant unit.

**A laboratory** setup for emulsifying is shown in the illustration in which an oil-soluble liquid at A and a water-soluble liquid at B are fed down to an emulsifying chamber C to issue as a uniform emulsification to the receiving container at D. Electrical power is taken from the electronic generator E which connects to a 110-volt 60-cycle ac. line and delivers 100 watts at 400 kc. to the transducer F on which the emulsifying chamber is mounted to receive the sound energy which the transducer delivers to it. Delivery is assured by means of the hand hydraulic pump G that serves to maintain transmitting fluid under pressure between the vibrating element and the chamber. The pilot plant assembly contains the same basic parts. It differs in its 1,500-watt output at 125 kc. and in its portable assembly in a single housing that measures 48 by 30 by 33 inches. While 400 kc. is standard in the laboratory equipment, other frequencies can be specified between 100 and 1,000 kc.

**Feature** in the equipment is its application of a formed ceramic element in place of the crystal previously employed by the company for conversion from electrical to sound energy. Shape and size of this element can be controlled for given purposes. It can be polarized during manufacture to concentrate the sound energy in desired direction.

• (BREVITY—Identify by) IEN - 1025 (in requests to the maker) •

## BATTERY . . Silver-zinc design in five ratings from .5 to 40 amp. hr.

Source: YARDNEY INTERNATIONAL CORP.
105-7 Chambers St., 2nd Fl., New York 7, N. Y.

**Silvercel** trade names new storage battery employing silver and zinc as the active materials in connection with an electrolyte that is absorbed in the active material so there is no tendency to leak or spill. There are no plates or separators. Shock resistance is measured by the mechanical strength of the housing. Heavy discharge will not damage the battery. No fumes issue on charge or discharge.

**Five sizes** available at present start with the smallest in a rectangular housing with 1½ volt, .5-amp. hr. rating. It measures a little over 1 in. in width, ½ in. in depth and a bit under 1½ in. in height. The largest rates 40 amp. hr. at 1.5 volts. It measures about 4¼ by 1½ by 4 inches. Two cylindrical cells are a little under 2 in. in height by about ½ and ¾ in. in diameter. They rate .8 and 1 amp. hr. at 1½ volts.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER Descriptions Ratings See Page 50*

## WHAT DO YOU NEED?

SUGGESTION . . Before you check through this issue, "lift" the Reader Service Form between pages 16 and 17 or 84 and 85 and keep it beside you as you go along. Note on it the numbers of the products on which you want further information. Then either mail it to us, so we can forward your requests to the manufacturers, or use it as your guide to write direct.

•

### From a Plant Engineer

"For years I have availed myself of the opportunity to keep abreast of new equipment by scrutiny of every issue of Industrial Equipment News. Any product which may in the future be needed is marked for request for literature. As a result we have built up a catalog file of many thousand pieces. Much of the trade literature received through the mail is consigned to the waste basket as not relevant to our business, but never any received through IEN.

"Thus the service is efficient in that there is no waste. Each inquiry we make is as a potential customer even though we may not be in the market at the time.

"Your coverage of the field is wide and it is rare that an item of new equipment is noticed in any publication that is not covered in IEN."

•

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W. E. Fish, V. Pres. & Editor — [signature], V. Pres. in Charge

THOMAS PUBLISHING COMPANY

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FILL IN AND SEND ALONG TO OTHERS INTERESTED IN PRODUCT INFORMATION

☐ Plant Operating Mr.

☐ Production Mr.

☐ Engineering Mr.

☐ Product Design Mr.

☐ Purchasing Mr.

BRIEFITS—Identify by IEN-1026 if you write the maker

BRIEFITS—Identify by IEN-1027 if you write the maker

- CAST IRON *RUGGEDNESS*
- BALL BEARING *SMOOTHNESS*
- 8 Position *ADJUSTABILITY*

with "Buffalo" VOLUME FANS

- Blowing or exhausting up to 10" s.p.
- Series of cleaning, drying, draft uses
- Built to stand heat and moisture!
- Compact, easily installed!
- Write for Bulletin 3615 for the facts on these versatile, durable, USEFUL fans!

BUFFALO FORGE COMPANY
496 BROADWAY, BUFFALO, NEW YORK
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Branch Offices in all Principal Cities

"Buffalo" VOLUME FANS

BRIEFITS—Identify by IEN-1028 if you write the maker

Make Less Metal Do More Work

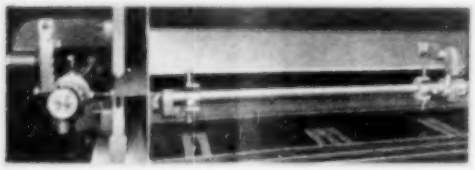
- by adding structural and impact strength without increasing weight
- by giving attractive textures for eye-appeal and to resist scratching, marring, finger prints and "doodling"
- by a reduction of 25% to 50% in gauge without impairing structural values

INVESTIGATE! Write Today!

BRIEFITS—Identify by IEN-1029 if you write the maker

## PRESS TOOLS . . Indexing back gage presents successive stops to the work

Source: GENERAL GAS LIGHT CO.
203 N. Park St., Kalamazoo, Mich.



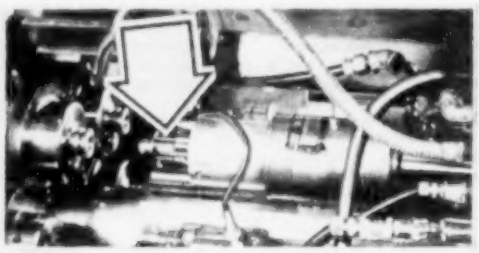
**Humphrey Brackets** (trade) assure a new back gage for application on press brakes to present successive adjustable work stops to a total of four variable work positions, a different one each time the press brake is hit and returns to "up" position. The gage can be set prior to starting a series of four bending operations so one can follow another without operator attention.

**Two brackets** provide bearing support for a horizontal shaft back of the press die. The shaft carries two heads equipped with locking cap screws that serve as the adjustable stops in 90-deg. positions around the heads. The shaft also carries a ratchet wheel that acts with a spring backed ratchet finger secured to the press die or ram. The shaft does not rotate on the down stroke so the cap screws in horizontal position, facing forward, at the time, are in work-gaging position. On the up stroke the ratchet rotates the shaft 90 deg. to present the next gaging position. There is provision to disengage the ratchet action so a given stop position will hold steadily to accommodate a run of work.

BRIEFITS—Identify by IEN-1030 if you write the maker

## DRILLING . . Multi-spindle head mounts on tool spindle in screw machine

Source: ZAGAR TOOL INC.
23878-82 Lakeland Blvd., Cleveland 23, Ohio



**New special design** of the company's crank-type multiple-spindle drill head rides a long slide or arbor fed to and rotates with the tool spindle on one of the work positions on an automatic screw machine. The head begins with the work right the right cross-slotted spindle is on hand and rotates with reference to the work as the slide is fed in to drill and on the cross spindle is advanced.

**The application** holds the head in the spindle as part of the company's machine type gang or turret of the Fordson press and "Gisa" a second operation, a reamer. The company is equipped to design and supply drill heads to specifications for given assembly and hand-operated turret lathes or semi-automatic machine screw work.

For Makers of These and 50 Other Products, see Listed in THOMAS REGISTER . . Descriptions . . Ratings . . See Page 50

BRIEFITS—Identify by IEN-1031 if you write the maker

Water, oils, plating baths, degreasing solutions and many other liquids do a more efficient job when maintained heated. And one of the faster, more accurate and efficient methods of heating liquids is with G-E Calred immersion heaters . . . by putting the heater right in the liquid for maximum heat transfer with minimum heat losses!

FREE BULLETINS, GEC-1007A "Electric Heaters and Heating Devices" and GEA-6972, "Heating Liquids With Electric Heaters" will help you select and apply the heaters best suited to your jobs. Write to Apparatus Dept., Inc. 20-02, General Electric Co., Schenectady 5, N. Y.

GENERAL ELECTRIC

BRIEFITS—Identify by IEN-1032 if you write the maker

## SAVES MONEY ON CRATING and CONSTRUCTION WORK

Atlas 10" TILT/ARBOR SAW

Here's the heavy duty, yet completely portable saw that's reducing crating and construction costs in plants all over the country.

The reason: The big capacity and rugged full-bearing construction of the Atlas 10" tilt/arbor saw. They give you extra speed and accuracy in making crates and boxes . . . in wood manufacturing . . . in cutting lumber for plant construction.

Weighing under 300 lbs., the Atlas can be transported by two men or dolly to any part of the plant. Floor stand available. Your choice of 3 big table sizes: 28" x 42" . . . 28" x 60" . . . or 28" x 48" . . . as shown above. Depth of cut 3½". There's 12½" table working surface ahead of blade. Quick-positioning tilt-lever locks at most tools . . . has Vernier control for fine adjustment.

Write for full details on this rugged, cost-cutting saw.

Atlas Press Co.

BRIEFITS—Identify by IEN-1033 if you write the maker

FIGHT FIRE THE FAST, SIMPLE WAY

The Kidde Model 15 packs the deadly-to-fire punch of 15 lbs. of $CO_2$. The pull of one finger on the trigger puts it into action!

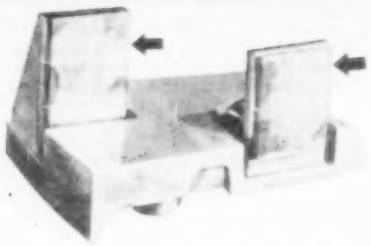
Write for free literature on Kidde Portables.

Kidde

Walter Kidde & Co., Inc., 236 Main Street, Belleville 9, N. J.

BRIEFITS—Identify by IEN-1034 if you write the maker

## For mounting carbide facings you can't beat EASY-FLO No. 3



This low temperature silver brazing alloy has long been widely used for putting carbide tips on cutting tools of all kinds, because it's the fast, reliable, low-cost way to do the job. Riley Stoker Co. now found this out when developing carbide faced pegs, shown above, for their coal pulverizers. EASY-FLO No. 3 meets every requirement for joining the carbide facings to the forged steel pegs. The pulverizing of thousands of tons of coal has proved the joints are every bit as strong as the pegs.

BULLETIN 11-A gives details of carbide facing with EASY-FLO No. 3. Write for a copy today.

HANDY & HARMAN 82 Fulton St., New York 7, N. Y.

▼ REPRINT—Identify by IEN-1035 if you write the maker ▼

# FREE! 32-PAGE HANDBOOK

## SHOWS HOW TO STOP CONDENSATION DRIP

NoDrip

Stops Drip from:
- ✓ Cold water pipes
- ✓ Water filter tanks
- ✓ Metal or concrete ceilings
- ✓ Basement walls
- ✓ Condensers
- ✓ Air Ducts
- ✓ Blower pipes
- ✓ Dust Collectors
- ✓ Crystallizers

Learn how you can control condensation drip from pipes, tanks, ceilings—from metal, wood or masonry surfaces.

**LOW COST — EASY TO APPLY**

Anyone can apply NoDrip, the triple-duty insulation type coating. Brush it on or spray it on. Use it on pipes or equipment where temperature differences cause condensation. Save money by preventing rust and corrosion. Deaden sound, decrease vibration on metal ducts or pipes.

**HANDBOOK SHOWS HOW**

Send today for your copy of the NoDrip HANDBOOK which tells what this plastic-like material can do for you. It's the modern solution to condensation drip problems.

Send For Your Free Handbook Now!

J. W. MORTELL CO.
Industrial Coatings Since 1891
Dept. 18, Kankakee, Ill.

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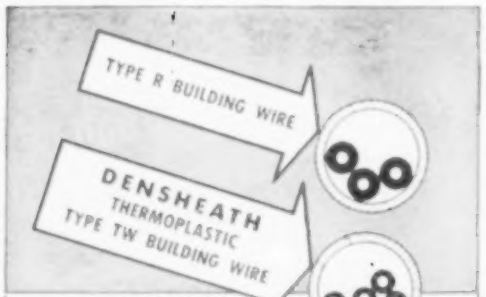


# INCREASED CAPACITY WITH Densheath

For rewiring in existing raceways, the National Electrical Code permits #10 Type TW Densheath wires to be pulled in a 3/4" conduit where only 5 #10 Type R wires are permitted.

Densheath is safer, too—will not support combustion ... or long rating ... temperature to acids, oils, alkalis ... light weight ... has super-slick finish ... is highly abrasion resistant ... recognized by Code for circuits to 600 volts, temperatures to 140° F. and for wet and oily locations.

Write for Anaconda Building Wire Catalog C-67.

ANACONDA WIRE & CABLE COMPANY
ANACONDA
25 BROADWAY, NEW YORK 4, N. Y.

▼ REPRINT—Identify by IEN-1037 if you write the maker ▼

# BROWNING GRIPBELTS

—matched and sealed for your protection

Each belt is placed in a testing machine which reads distance between sheave centers under a given tension. Belts with identical characteristics are assembled in matched sets, then sealed. Installation instructions accompany each set.

Nationwide service—write for the name of the BROWNING Gripbelt distributor near you.

**BROWNING MANUFACTURING CO.**
16 Chester Street Maysville, Kentucky

▼ REPRINT—Identify by IEN-1038 if you write the maker ▼

## THREADING . . Carbon steel taps standard, special to No. 2, or .086 in.

Source: WOODRUFF & STOKES
583-87 Washington St., Quincy 69, Mass.

The cut threads and flutes in this new line of steel (carbon-steel) taps are highly polished, expensive heat treatment, to solid alloy ring and remove all chipping surface scratches. Radial clearing and angle lap—remove sustain a maintenance of the cutting edges. The last treatment permits a very hard cutting edge combined with toughness in the body. Accuracy is within .002 in. on pitch diameter. Threads to 200 per in. can be specified.

▼ REPRINT—Identify by IEN-1039 if you write the maker ▼

## BRAZING . . Copper in paste form with flux to dip, spray, brush, extrude

Source: METALS REFINING CO.
1715-19 Summer St., Hammond, Ind.

Sample available on request

Lithoid is a non-copper brazing paste for application in a spread layer to be brazed. It can be extruded by pneumatic or hand gun that the company has developed for the purpose. It can be thinned and applied by dipping, spraying, brushing.

Two types outside one with a petroleum base and one containing no petroleum. The first can be extruded without thinning and can be thinned by addition of kerosene or light fuel oil. The second is thinned by adding water or anti-freeze solution. The reason is this mixed paste decomposes in the brazing furnace heat to produce hydrogen and carbon monoxide and so does not harm a protective furnace atmosphere.

▼ REPRINT—Identify by IEN-1040 if you write the maker ▼

## MOTOR . . Brake equipped dc., rates 1/100 hp., for reversing service

Source: ELECTRO-AIRE INC.
11437-41 Vanowen St., North Hollywood, Calif.

Operating torque is 1.1 in. oz. at 0.0001 (per) on 28 volt dc. Input is this low actuator motor for overall dimensions excluding the worm gear integral with the motor shaft are 3 1/8 in. by about 1 1/4 in. in diameter. The mounting plate measures 2 3/8 by about 2 3/8 inches. Weight is a little over 1 pound. The brake is built in and is adjusted by the manufacturer for correct operation.

All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ REPRINT—Identify by IEN-1041 if you write the maker ▼

Robins Troughing Idler—with bearings on which belt movement other can offer.

Robins Roll Bearing Troughing Idlers in both types can run 40° while Robins Roller Bearing Troughing Idlers have exclusive Triple Contact Seal which locks grease in, moisture out and assures full lubrication for long operating life. Both types provide exclusive One Shot Lubrication.

**Immediate shipment from stock.** More than 30 Robins Idlers now carried in stock for immediate shipment. For Troughing, Return, or Flat Belt Idlers write for Bulletin C-15-A.

**ROBINS IDLERS**

ROBINS CONVEYORS DIVISION
Hewitt-Robins Incorporated
Passaic, New Jersey

▼ REPRINT—Identify by IEN-1042 if you write the maker ▼

LUBRICATION ECONOMY

# LUBRIPLATE SAVES 7 TIMES ITS COST!

LUBRIPLATE DIVISION

The Different LUBRICANT!

DEALERS EVERYWHERE (consult your Classified Telephone Book)

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# Cut Winter Costs

THIS ILLUSTRATED BOOK TELLS HOW

Keep water circulating in summer schedule ... and forms until it hot is not ... cure up to 60% on heating fuel and labor with Lone Star Cement. This time-tested, heavy-duty, high-strength cement is the one sure way to Lower the Cement Concrete Bill. Write Box 7-5-12.

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▼ REPRINT—Identify by IEN-1044 if you write the maker ▼

# NORMA-HOFFMANN "Cartridge" Bearings

- Simplify Design Problems
- Speed Assembly of Products
- Give Long Operating Life
- Improve Product Performance

Standard Type

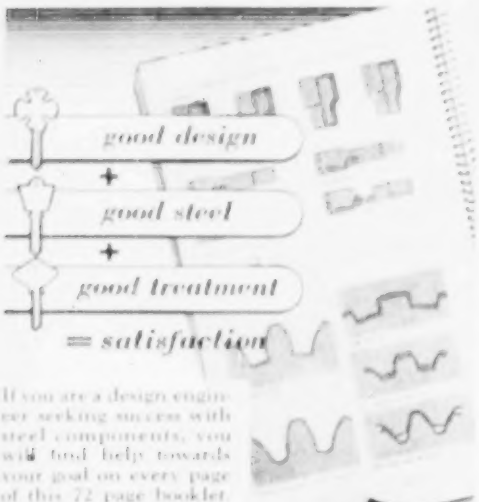
This modern Norma-Hoffmann "Cartridge" Bearing improves product performance and lowers your production costs with these outstanding advantages:

— Double-row, width provides 100% more greater capacity, reduces to only after years of service. — Tight fitting, weather proof seals exclude dirt and dust. — Increased shaft strength, reduced overhang.

Fall one half, give full load carrying capacity. Hoffmann's of many years of bearing operation. Write for catalog giving full details on "Cartridge" Bearings.

NORMA-HOFFMANN BEARINGS CORPORATION
Precision Ball, Roller, Thrust Bearings
STAMFORD, CONNECTICUT

BREFITT—Identify by IEN-1046 if you write the maker

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This booklet sent to you FREE

Climax Molybdenum Company
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BREFITT—Identify by IEN-1048 if you write the maker

# Poro-Stone Filtration FOR COMPRESSED AIR

EFFICIENTLY REMOVES
OIL, WATER
PIPE SCALE

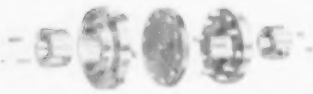
The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 195.

R. P. ADAMS CO., INC.
219 E. Park Dr., Buffalo 17, N. Y.

ADAMS *Poro-Stone* AIR FILTER

BREFITT—Identify by IEN-1047 if you write the maker

NEW! TAPER-LOCK*
FLEXIBLE COUPLING



DODGE MANUFACTURING CORP., MISHAWAKA, INDIANA

DODGE
A of Mishawaka Ind

INDUSTRIAL EQUIPMENT NEWS

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What's New · EQUIPMENT · PARTS · MATERIALS

Vol. 18 FEBRUARY, 1950 No. 2

## Product Information Service

This little piece is to say "thanks sincerely" for your expressions of approval, your examples of actual use of Industrial Equipment News and for your helpful suggestions in reply to our year-end letter. Now that the replies are about all here we also want to comment in our mutual interests on several points that were brought out to your letters. We will not take space to print your questions since you will be able to see our suggested answers to them in the following—

We accept a product for editorial description that has not been previously promoted to the industrial field in its new or newly improved form by the maker for whom we write the description. IEN will carry news of that same or similar product under the same conditions for any other manufacturer who actually has it in production and available for readers who may be interested. We have a release form outlining the information we need to do a reasonably complete editorial job and to provide us with authorization to proceed. We will mail you a copy if you would like to see it and perhaps use it for your own new product.

Our briefed items in the New Literature and News Notes departments are aimed to give you a quick picture of each piece by subject, size and content. All of the material is screened to concentrate both departments on information that is new, constructive and suitable for inclusion in your reference files. Each item is written with an actual piece of the literature on hand.

We will name sources for information on any plant facility, service or product component that you want to know about and do not find in your current issue. We will make suggestions to help answer special plant and product problems on receipt of your request.

We will publish in "I Wish I Had" department any questions we are unable to answer to invite assistance from all of our 60,000 readers.

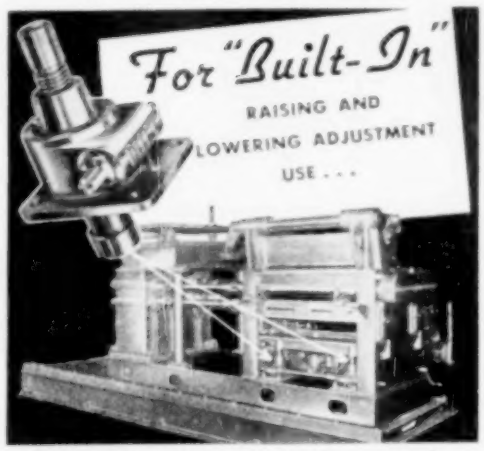
We will forward your inquiries to the manufacturers and will mark "no salesman" on those that you indicate are in search of literature only. We do suggest that you address the manufacturers direct when you have special considerations to advance and want specific answers. One reader tells us, "I find an IEN-referenced inquiry airmailed direct enables me to arrive quickly at a reasonably accurate estimate of what may be gained by further investigation."

We want word from you whenever you note a described product that you know to be old in our definition. We want names of manufacturers and the products involved in inquiries you have sent through us or direct without having received the information you asked for. We will investigate such each case to secure the information and prevent recurrence of the difficulty.

We suggest for your consideration the simple filing system we have set up for our own use. This system employs plain 3 by 5-in. cards, a different color each year, and a set of drawers to keep them in. Each card carries a pastel clipping of the item, heading and makers' name and address, the illustration and a portion of the text, sufficient to recall the subject at a later date. We use rubber cement or scotch tape to adhere the clippings. We file these cards in uniform with IEN's product index and have little difficulty in making quick reference to the records of things to do things with.

W. E. Irish.

BREFITT—Identify by IEN-1048 if you write the maker




DUFF-NORTON Worm Gear Jacks

For suggested applications write for Bulletin AD-5 G.

THE DUFF-NORTON MANUFACTURING CO.
MAIN PLANT and GENERAL OFFICES, PITTSBURGH 30, PA.
CANADIAN PLANT, TORONTO 6, ONT.
"The House that Jacks Built"

BREFITT—Identify by IEN-1049 if you write the maker

IT'S EASY TO *See* HOW YOU SAVE MONEY! *with*

SEALMASTER
BALL BEARING UNITS

- Ask a SealMaster Bearing engineer to call and actually show you the combination of features offered exclusively by SealMaster. Do not accept pillow block or cartridge unless equipped with all SealMaster's major advantages.
- Permanently Sealed
- Self Aligning
- Pre-Lubricated

Write for Catalog 242 which gives dimensions and load ratings on the complete SealMaster line.

BEARING DIVISION
STEPHEN S-ADAMSON Mfg. Co.
231 Ridgeway Ave., Aurora, Ill. · Los Angeles, Calif. · Bellefontaine, Ohio

*Factory Representatives and Dealers in All Principal Cities*

BREFITT—Identify by IEN-1050 if you write the maker

WHEN YOU . . .

Disconnect, You Stop the Flow in *Both* Ends

EQUIPMENT MANUFACTURERS

Wiggins

QUICK DISCONNECT
INST-O-MATIC COUPLINGS

▼ PRECISION—Circle 1 on IEN-1051 for more data on this product ▼

# HOW MUCH DO POWER THROBS COST YOU?

In production loss?
In wear and tear of machinery?
In maintenance?

BIG SAVINGS result from remedying the common source—poor couplings.

## LOVEJOY
### L-R
### Flexible Couplings

Type "H" for heavy duty with overall smoothness. Special safeguard.

Most effectively compensates misalignment, vibration, wings, backlash by simplest construction, resilient, free-floating load cushions suspended between strong metal jaws. Cushions for every duty 1/4 to 2,500 h.p. NO SHUT DOWN FOR CHANGING. No lubrication.

Get the complete Lovejoy Catalog, and see for yourself!

Quick-Finding Selector Charts lead you right to the couplings you need. Write, wire or phone.

**LOVEJOY FLEXIBLE COUPLING CO.**

5014 W. Lake St. Chicago 44, Ill.

▼ PRECISION—Circle 1 on IEN-1052 for more data on this product ▼

# SAVE TIME... STORAGE SPACE ...AND AVOID SPILLAGE

**with TELLEVEL AUTOMATIC BIN-LEVEL CONTROL**

Let TELLEVELS watch your bin level for you ... Avoid empty or overflowing storage bins.

Mount a TELLEVEL near the top and another near the bottom of your storage bin ... As the material level falls or rises, the light pendant is pushed aside ... Automatically starts or stops conveyor, elevator or pump.

Can be furnished for bulk materials or liquids.

*Check quickly now. Write now for Bulletin No. 440.*

**STEPHENS-ADAMSON MFG. CO.**

Tellevel-Bin Level Controls · Saco Speed Reducers · Car Loaders · Car Pullers · Winches · SealMaster Ball Bearings

231 RIDGEWAY AVE., AURORA, ILLINOIS

▼ PRECISION—Circle 1 on IEN-1053 for more data on this product ▼

# PROTO TOOLS formerly PLOMB TOOLS

*BIG NEWS!* A different name for your old friends

You will find PROTO tools—formerly Plomb tools—everywhere! Over 10,000 better-class dealers display them ... Since 1907, high quality, superior design and long life have made them the favorites of professionals ... Remember, the new name—PROTO tools. Buy them from your dealer today.

*Write for catalog to*

PLOMB TOOL COMPANY
2271N Santa Fe Ave., Los Angeles 54, Calif.

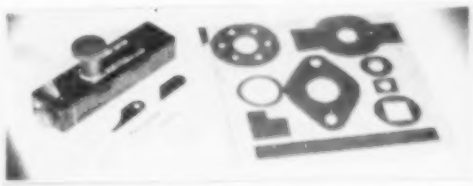
**PROTO TOOLS** LOS ANGELES

4V60

▼ PRECISION—Circle 1 on IEN-1054 for more data on this product ▼

## CUTTING . . Hand tool for gaskets for circles, straight or curved outlines

Source: ZIMMERMAN PACKING CO.
2766-70 Highland Ave., Cincinnati 21, Ohio



**Diameter range** is ¼" to 9" for circular gaskets, then rings with this new cutter. It rides a pivot pin in a cutting board that forms part of the kit or is drawn free hand over the gasket material to follow an irregular outline. The pivot pin engages a slide that is positioned in the Bakelite body to a diameter scale on the body and is locked by a knurled screw.

**The slide** also can be set to project a little from the body to act as a guide for straight-line cutting. Two designs of cutting blade are supplied and locked interchangeably by the second knurled screw at the end of the body. List price for a complete gasket cutting kit is $7.50.

▼ PRECISION—Circle 1 on IEN-1055 for more data on this product ▼

## LUBRICATING . . Pneumatic oiler for slow conveyors is timer controlled

Source: J. N. FAUVER CO.
45 W. Hancock Ave., Detroit 1, Mich.

**Equipment supplied for specified need**

New assembly of the company's oiler, which delivers an aerosol mist of oil, includes mechanical tripping equipment to operate a micro-switch that causes a solenoid valve to open in the air-oil line. The switch also causes the circuit to a timer which acts to close the valve at the end of a desired interval. Thus the correct amount of oil can be delivered to the wheel bearings on a conveyor that is moving very slowly since shut-off of the oil is not dependent on the actual movement.

▼ PRECISION—Circle 1 on IEN-1056 for more data on this product ▼

## FILING . . Carbide burs to produce granular chips in steel

Source: PRATT & WHITNEY
45 Charter Oak Blvd., West Hartford 1, Conn.

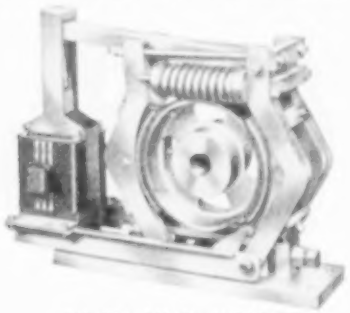
**Interrupted teeth** as shown in the illustration of one of the company's carbide burs are set to produce granular chips instead of the silver-like ones that come from a bur with continuous teeth. The design shown is the same as previously described IEN-0202-40, except for deep flutes ground at regular intervals.

**The burs** are available in a range of shapes and sizes as shown in literature the company has prepared under the title "Keller Burs and Accessories." Each bur is ground to a master form on a machine employing a solid carbide blank.

*All Makers of Tools and All Other Products Are Listed In THOMAS' REGISTER ... Descriptions ... Ratings ...* See Page 50

▼ PRECISION—Circle 1 on IEN-1057 for more data on this product ▼

**TROMBETTA SOLENOID CO.**
331 N. MILWAUKEE ST. • MILWAUKEE 2, WIS.



SB-373 SHOE BRAKE
10" WHEEL, 5" FACE, 450 FT.-LBS.

SB-300 LINE OF BRAKES
TORQUE 3 TO 16500 FT.-LBS.

B-100 LINE OF DISK BRAKES
TORQUE 10 TO 25000 FT.-LBS.

EIGHT LINES OF SOLENOIDS
RECIPROMOTORS AND SEMOTORS

▼ PRECISION—Circle 1 on IEN-1058 for more data on this product ▼

# A GOLD MINE OF INFORMATION on Electric HEATING

The New **CHROMALOX CATALOG 50**

If you use HEAT or any form of power ... Catalog 50 contains valuable information and calculation data.

*Write Today for YOUR Copy!*

EDWIN L. WIEGAND CO., 7500 THOMAS BLVD., PITTSBURGH 8, PA.
See Commercial Heating Units Advertisement, Page 11

**CHROMALOX**

**ELECTRIC HEAT FOR MODERN INDUSTRY**

▼ PRECISION—Circle 1 on IEN-1059 for more data on this product ▼

# INTERCHANGEABLE PUNCHES and DIES

are *Simple, Trouble-Free* IN DESIGN AND CONSTRUCTION

GET THE WHOLE STORY IN THIS FREE CATALOG

**ALLIED PRODUCTS CORPORATION**

Department 40 • 12615 Burt Road • Detroit 23, Mich.

▼ PRECISION—Circle 1 on IEN-1060 for more data on this product ▼

# Save Mounting Time WITH EASY-TO-ALIGN "MAGIC-GRIP" Sheaves

You can mount a "Magic-Grip" sheave faster than any other sheave you can buy ... and dismount it just as fast. To mount ... simply slide sheave on shaft and tighten three screws. To dismount ... just loosen to break the tapered bushing grip. Sheave slides off easily.

No damaged bearings from forcing and hammering. A few socket wrench is the only tool needed. And anyone can line up the sheaves perfectly ... from 1 to 250 hp.

For complete facts and figures, see book "Magic-Grip" sheaves can save you money—call your A-C Authorized Dealer or Sales office or write for Bulletin 20B0931.

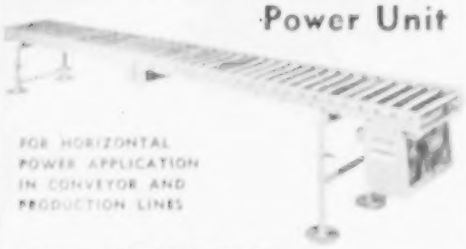
Magic-Grip is an Allis-Chalmers trademark.

ALLIS-CHALMERS, 900A SO. 70 ST.
MILWAUKEE, WIS.

**ALLIS-CHALMERS**

BREFITS—Identify by IEN-1061 if you write the maker

# METZGAR "LIVE-ROLLER" Power Unit



FOR HORIZONTAL POWER APPLICATION IN CONVEYOR AND PRODUCTION LINES

Metzgar "Live-Roller" Power Units offer a non-resisting metal transmission surface that outlasts belt type units many times over, for handling hot or sharp edged articles.

They are offered in various lengths and are readily adjustable for height.

Rollers may be specified for any spacing—3 to 5 rollers per foot—either above or below the channel frame.

For economy in power units, your best buy is a Metzgar.

- BALL BEARING THROUGHOUT
- MORE DURABLE THAN BELT TYPE
- PERMANENT OR PORTABLE BASE

For full specifications and price write for Folder No. 1249.

METZGAR CO.
417 Douglas St. N. W.
GRAND RAPIDS 4, MICH.

BREFITS—Identify by IEN-1062 if you write the maker

# AMERICAN MONORAIL

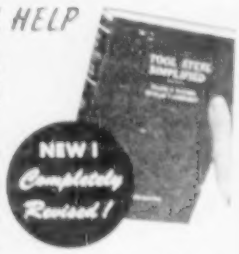
Permits Close Spacing of Trucks Carrying Champagne Windows

THE AMERICAN MONORAIL COMPANY

BREFITS—Identify by IEN-1063 if you write the maker

HERE'S PRACTICAL HELP

FOR TOOL AND DIE MAKERS!



NEW! Completely Revised!

TOOL STEEL SIMPLIFIED

OVER 100,000 COPIES OF FIRST EDITION IN USE!

MAIL TODAY

THE CARPENTER STEEL COMPANY
Reading, Pa.

BREFITS—Identify by IEN-1064 if you write the maker

## TESTING . . Stress-strain equipment for rubber and rubber-like compounds

Source: G. F. BUSH & ASSOCIATES
P. O. Box 175, Princeton 1, N. J.

New equipment, such as the GERMAN Strain Tester, measures the per cent of elongation in a specimen at a definite time interval after the application of a predetermined stress. This stress is obtained by load on the specimen in Dynes. The elongation is proportional to a Dial Gauge in millimeters.

Applications include predetermination of cure time for any desired per cent of elongation, general application to obtain stress-strain curves on rubber and plastics, checking the effect of storage on elasticity. The company will supply complete data on installation and operating instructions. Low to $1,000.

BREFITS—Identify by IEN-1065 if you write the maker

## HAMMER . . Soft face hand unit locks replaceable face pieces in place

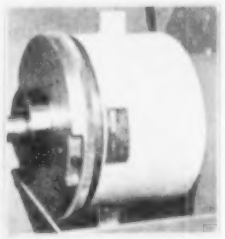
Source: GREENE TWEED & CO.
342 Elm Ave., North Wales, Pa.

New design of the company's Hass replaceable face hammer includes a filled handle with lacquered finish and enameled grip, new head design to grip the face pieces even though they vary somewhat in size, metal parts with baked aluminum finish. The face pieces can be specified in rawhide, Hass molded composition, plastic, copper, hammer to meet requirements.

BREFITS—Identify by IEN-1066 if you write the maker

## CHUCK . . Air operating cylinder for chuck or mandrel on a lathe

Source: ERICKSON TOOLS DIV.
2307-11 Hamilton Ave., Cleveland 14, Ohio



Model 699 is a new design of pneumatic cylinder to operate a chuck or expanding mandrel. It can be set up for push or pull operation. Overall it is an inch longer than the old model. Pressure at the rear cylinder is adjustable to the proper type, which is adjustable to the work. The cylinder is mounted on the lathe spindle. The assembly will fit into the lathe spindle. Cylinder bore is 2½ in. in diameter, stroke 1½ in. Operation is simplified.

Manufacturers of Tools and Equipment Are Listed in THOMAS REGISTER—Descriptions—Ratings—See Page 58

BREFITS—Identify by IEN-1067 if you write the maker

YOU NEED A BUILDING?

Meet your Problems of Space, Production or Storage by using TRUSCON Standardized Steel Buildings.

YOU NEED IT WHEN?

Prompt delivery of TRUSCON Standardized Steel buildings within certain size limitations is now possible.

YOU NEED IT WHERE?

These standard-unit, prefabricated structures can be shipped anywhere, are easily and speedily erected and dismantled, allowing extreme flexibility.

Series "A"—Type 1

H W

TRUSCON STEEL COMPANY
YOUNGSTOWN 1, OHIO

BREFITS—Identify by IEN-1068 if you write the maker

Top Quality Welding Supplies—when and where you need them!

Call U·S·S Supply Co.

WHEN YOU DEAL WITH US, YOU GET Service Plus!

UNITED STATES STEEL SUPPLY COMPANY

UNITED STATES STEEL

BREFITS—Identify by IEN-1069 if you write the maker

# For Faster LIFTING . For Safer LOWERING

# SIMPLEX

RATCHET LOWERING JACKS

NO. 22
10 TON CAP.

Simplex Jacks

TEMPLETON, KENLY & CO.
1012 South Central Avenue, Chicago 44, Illinois

BREFITS—Identify by IEN-1070 if you write the maker

# QUICKER HEATING

- Small Size
- Light Weight
- One Moving Part
- Low Price

OVER 600,000 SOLD!

YARWAY

IMPULSE STEAM TRAP

▼ REPRINTS—Issued by IEN-1071 ▼

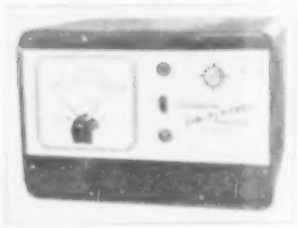
▼ REPRINTS—Issued by IEN-1072 ▼

▼ REPRINTS—Issued by IEN-1073 ▼

▼ REPRINTS—Issued by IEN-1074 ▼

## CONTROL . . Contact making meter and relays for process control uses

Source: ASSEMBLY PRODUCTS INC
Bell & Main Sts., Chagrin Falls, Ohio



New assembly of the company's Simplytrol, initially designed for use in a controlling permeameter, is now available for any process requiring fine, sensitive, speed control, automatic light or alarm signals, with long range or even slow. Control action is initiated by changes as small as ½ milliampere or a fraction of a millivolt. Industrial relays rating to 15 amp. on 110 volt a.c. The relay on 220 volts. Overall dimensions are approximately 19 by 7 by 7 inches.

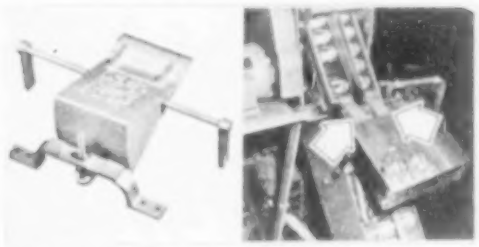
**One of two** pictures, mounted on the panel, is the permeameter instrument and is connected in series with an extra winding on the moving element. The other contact is mounted on the pointer that is mounted on a fixed control point. Current in the indicator circuit flows through the extra winding and locks the contacts together magnetically. Interrupting the current in this locking circuit operates the relay or acts as an automatic interrupter separating the contacts by action of a spring trying to pull them apart.

**Standard design** includes one adjustable contact and one moving contact adjustable for a high or a low limit. Both can be specified on a given instrument. Contact

▼ REPRINTS—Issued by IEN-1075 ▼

## SORTING . . Magnetic pickup lifts partly filled cans from conveyor

Source: COLUMBIA ENGINEERING SERVICE CO
171-75 14th St., San Francisco 3, Calif.



**New Eliminator** [illegible] consists of a cone-wound permanent magnet that operates on a locking shaft across a pantograph arrangement [illegible]. The cans are attracted by the cans [illegible] as they pass beneath it. The cans are taken off, however, as the shaft with [illegible] is [illegible] partly filled and therefore [illegible] cans.

**This light can** [illegible] the pantograph [illegible] the conveyor as the cans are [illegible] the magnet [illegible] partly filled [illegible] discharge chute. The unit will remove all empty cans, most of the marginally and marginally filled cans [illegible]

All Makers of Cans and All Other Products Are Listed in THOMAS' REGISTER Descriptions Ratings See Page 50

▼ REPRINTS—Issued by IEN-1076 ▼

▼ REPRINTS—Issued by IEN-1077 ▼

## GET THIS CATALOG NOW . . .

For valuable information on high-speed process measurement and control

Wherever minimal movement speed is required in measuring, recording or automatically controlling, the various tube actuated Speedomax is ready to do the job. L&N Catalog ND46(1) contains 40 pages of information on Speedomax Type G instruments. Details of ranges, specifications, types of equipment for particular jobs, etc., are catalogued in reference form. For specific help on a specific problem, feel free to call in an L&N engineer, or write to Leeds and Northrup Company, 4901 Stenton Avenue, Philadelphia 44, Pa.

LEEDS & NORTHRUP COMPANY, 4901 STENTON AVE., PHILA. 44, PA.
LEEDS & NORTHRUP
MEASURING INSTRUMENTS · CONTROLS · AUTOMATIC CONTROLS · MULTIPLE RECORDERS (ALL ELECTRONIC)

▼ REPRINTS—Issued by IEN-1078 ▼

Does you'll be interested to see new booklet on the Rex Rotary Brush Can Cleaner and Drier. This unique new machine is proving to be a remarkably economical method of cleaning equipment. Here are some of the profitable advantages you get by installing a Rex Rotary Brush:

1. Improved Product Appearance
2. Simplified Cleaning
3. Important Space Saving
4. Speeds up to 300 cans per minute

You will also discover, upon reading this booklet, that

REX FOOD PROCESSING EQUIPMENT

CLEAN-RITE COMPANY
[illegible]

GENTLEMEN:
Please send me a copy of your booklet on the Rex Rotary Brush Can Cleaner and Drier.

NAME
COMPANY TITLE
ADDRESS
CITY ZONE STATE

▼ REPRINTS—Issued by IEN-1079 ▼

BRIEFITT—Identify by IEN-1080 if you write the maker

with 600 BEARING METAL!

Outperforms Phosphor Bronze and Most Other Bearing Metals

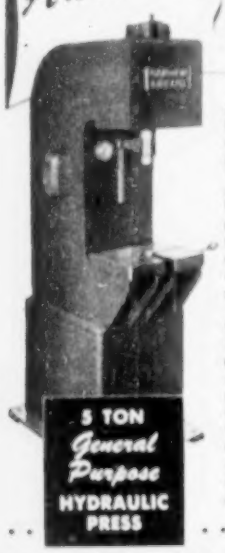
600 Bearing Alloy is approximately three times stronger than the best cast bearing bronze—YET IT CONTAINS NO TIN. It develops lower temperature under heavier loads and higher speeds than the bearing bronzes, and extreme pressure lubricants do not corrode it. ★ 600 is the solution to many difficult bearing problems. It can be drawn or forged and readily fabricated in a great variety of sizes and shapes. ★ Write us if you have a bearing problem. 600 Alloy is for those tough jobs, and may be the very solution. Complete literature is available.

600 SERIES BEARING METAL

MUELLER BRASS CO. PORT HURON, MICH.

BRIEFITT—Identify by IEN-1081 if you write the maker

Ahead in
1. DESIGN!
2. PERFORMANCE!
3. VALUE!




A "PACKAGED" UNIT—Complete with built-in hydraulic power unit, controls, and pressure gauge. Capacity, 5 tons, 10" stroke, 7" reach, 16" daylight. Stroke and pressure adjustable. Choice of models for bench or floor mounting.

DOZENS OF USES—Ideal for countless punching, press assembly, forming, straightening, broaching, and similar operations.

BIG VALUE! LOW COST—Built to "Big Press" standards of quality! Rigid, deflection-resistant frame. Precision built cylinder and ram.

POPULAR WITH USERS—Works fast with effortless ease. Precision pressure control at operator's finger tip. Easy to set for exact repetitive pressures.

QUICK DELIVERY—Get the presses you need now out of Hannifin's regular volume production. *Write for descriptive literature.*

HANNIFIN CORPORATION
1107 S. Kilbourn Ave., Chicago 24, Ill.

BRIEFITT—Identify by IEN-1082 if you write the maker

MANY INDUSTRIAL ROLL PROBLEMS are solved by using

SHAF-TITE ROLLS

Many patented constructions provide strongest possible shaft strong. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel, plastic, etc. Whatever your roll problem, put it up to Rodney Hunt.

SEND FOR NEW CATALOG NO. 48
Most complete publication of its kind

*Industrial Roll Specialists*
RODNEY HUNT MACHINE CO.
175 Maple Street, Orange, Mass.

BRIEFITT—Identify by IEN-1083 if you write the maker

## SHEARING . . Combination assembly of equipment to work from coil stock

Source: CLEVELAND PUNCH & SHEAR WORKS CO.
E. 40th St. & St. Clair Ave., Cleveland 14, Ohio

**Strip steel** in coils is loaded into the table to the left in the illustration of this new Automatic Shear. The table takes two coils back of stops on its slightly inclined surface. Dropping the stops permits the coils to roll forward to the uncoiler. The coil in this position comes to rest on a roller table on a hydraulic elevator that raises it and permits centering as it is gripped between two cones mounted to rotate in anti-friction bearings. One of the cones is driven by a variable-speed motor and a transmission to forward the strip to the roll feed which is next in line to the right.

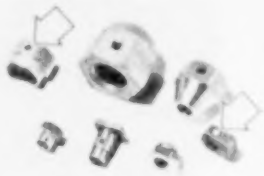
**The roll feed** mounts straightening, feed and idling rolls and is equipped with an electrically controlled drum-type clutch and spring-actuated brake and a measuring device to set cut material length between 12 and 148 in. at the shear toward which it moves the strip. The shear moves the cut, can do 90 strokes per min., and drops the cut piece in the stacker at the right hand end of the assembly. This unit aligns the pieces and drops them to a platform where they pile.

**The equipment** will take coils from 12 to 90 in. in width, to 72 in. in outside diameter, 16 to 30 in. in inside diameter and to 20 tons in weight.

BRIEFITT—Identify by IEN-1084 if you write the maker

## FASTENING . . Threaded parts fitted with nylon thread-lock plug

Source: NYLOK CORP.
475 Fifth Ave., Rm. 212, New York 17, N. Y.



**New service** has been established by the company through which it is prepared to fit threaded screw-machine parts supplied to it with the nylon locking plug it employs in its line of standard lock nuts.

The company also can supply the complete part fitted with the plug to price and specifications. Steel or aluminum are preferred metals. Brass or zinc can be employed.

**In each case** the part is tested through the side and a small nylon plug is inserted. The plug is secured by upsetting the inner end of the nylon here. The inner end of the plug extends to, but not into, the space of the thread channel. When it is turned into a mated or screw, the nylon components engage the nut and seal threads to give more value. It is not affected by oils, greases, fuels and solvents. It is not impacted by water, weight is negligible and it is a quick, easy fit for the plug. Wall thickness should be 1/8 in. or more.



BRIEFITT—Identify by IEN-1085 if you write the maker

handles
GREASE
WATER
AIR
OIL

MOUNT ANYWHERE

Wayne

HOSE REELS

FOR SAFETY keep hose off the ground, out of the way. Reel handles oil, water or grease as well as air. Hose unreels easily, retrieves smoothly. Universal mounting bracket permits mounting in any position, anywhere, on floor, ceiling wall or bench. Several sizes, types, and capacities up to 50 ft. of 1/2" I. D. hose. Write for bulletin today.

THE WAYNE PUMP CO. • FORT WAYNE 4, INDIANA
521 Tecumseh Street

BRIEFITT—Identify by IEN-1086 if you write the maker

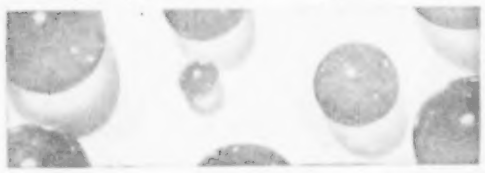
WICKWIRE SPENCER SPRINGS

PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL & IRON CORPORATION
Spring Sales Office & Plant: 2 New Rand Street, Worcester 11, Mass.
Executive Office: [illegible] Ave., New York 18, N. Y.
Sales offices: Boston • Buffalo • Chicago • Detroit • Detroit • New York • Cleveland [illegible] • Washington

CF&I

BRIEFITT—Identify by IEN-1087 if you write the maker

## NOW — *Precision Balls of Synthetic Sapphire*



These balls of synthetic sapphire, polished to within 20 microinches of sphericity, are resistant to wear, heat, and corrosion. In many applications they need not be lubricated.

Available in 1mm. 1/16 inch, 1/8 inch and 1/4 inch sizes, and in three surface finishes.

PROPERTIES

| | |
|---|---|
| Coefficient of Friction | [illegible] |
| Hardness Rating | [illegible] |
| Dielectric Constant | [illegible] |
| Modulus of Rigidity | [illegible] |
| Thermal Coefficient of Expansion (at 50 C. [illegible]) | [illegible] |
| Chemical Resistance | Unaffected by acids, alkalis, solvents |

Call or write any Linde office for information on these balls or the other forms of synthetic sapphire.

THE LINDE AIR PRODUCTS COMPANY
Unit of Union Carbide and Carbon Corporation
30 East 42nd St. [illegible] New York 17, N. Y.
In Canada: Stanhope Gases Company Limited, Toronto

BRIEFITT—Identify by IEN-1088 if you write the maker

MAINTENANCE CUT *Several Thousand Dollars Per Year* WITH KAOCAST

A large automobile manufacturing firm found that high temperatures and severe operating conditions were playing havoc with the doors of their 15-ton electric furnaces. Run 16 hours a day, 5 days a week, these furnaces are poured every 20 hours and are charged twice during each cycle. With a good grade of firebrick, furnace door linings lasted an average of only two or three days before replacements were necessary.

A trial installation of KAOCAST—the B&W high temperature Refractory Castable—was made. The KAOCAST doors stood up two to three weeks . . . *Are to eight times longer than firebrick.* As a result, doors on all electric furnaces of this type are now lined with KAOCAST. *Savings to maintenance are running into thousands of dollars per year.*

B&W Refractories Engineers will be glad to show you how KAOCAST will cut your furnace operating cost. Write or call today.

THE BABCOCK & WILCOX CO.
REFRACTORIES DIVISION
GENERAL OFFICES:
85 LIBERTY ST., NEW YORK 6, N. Y.
WORKS: AUGUSTA, GA.

▼ DETAILS—Circle 1; IEN-1089 if you write the maker ▼


SAVINGS AS HIGH AS 50%
MADE WITH THIS P-K SCREW
It's the "one operation" fastener

SIMPLE
Hammered or Pressed into Plain Holes
SPEEDY
No Tapping No Mold-Complicating Inserts
STRONG
Tamper-Proof Permanent Fastening

P-K TYPE "U"
Hardened METALLIC DRIVE SCREW
For permanent fastenings in castings, heavy sheet metal, plastics. One of many types. For details, write Parker-Kalon, 200 Varick St., New York 14, N. Y.

Call in a P-K Assembly Engineer
See why industry's fastening-wise leaders say —
IF IT'S P-K® . . . IT'S O.K. — THE ORIGINAL
PARKER-KALON® SELF-TAPPING SCREWS
AVAILABLE EVERYWHERE THROUGH ACCREDITED DISTRIBUTORS


▼ DETAILS—Circle 2; IEN-1090 if you write the maker ▼


START THE BALL ROLLING-
for a Better More Profitable - 1950
Order Your DETROIT POWER SCREWDRIVER NOW!

Discard the out-of-date, slow hand method of driving screws . . . Do it this speedy, time and labor saving way that will boost your production and bring costs down.

Cash in on its advantages like thousands of other manufacturers are doing . . . Start with the new year. We can make

IMMEDIATE SHIPMENT . .

on certain models. Detroit Power Screwdrivers are hopper-fed and furnished in three models . . . . Will drive all types of screws, as fast as one a second . . . All driven to uniform tension. Will not strip threads or mar heads.

Model A
A sensitive but sturdy machine for driving small screws in delicate assemblies. Capacity No. 2 to No. 6 screws. Both bench and pedestal types. Designed for maximum service, easy operation and speed.

Model B
A real production machine designed for semi-skilled service. It drives a range of screws of all types from No. 6 to ¼" diameter, up to 2" in length. Both bench and pedestal types.

Model C
A powerful machine for heavy-duty assembly work. Every part holder enough to stand driving hardened cap screws to a tension of 10,000 pounds. Capacity ¼" to ⅝" diameter screws.

Write for Catalog

DETROIT POWER SCREWDRIVER CO.
2815 WEST FORT ST. DETROIT 16, MICHIGAN


▼ DETAILS—Circle 3; IEN-1092 if you write the maker ▼

## MAGNIFYING . . Illuminated lens flexibly mounted on base for desk use

Source: HAAS CORP.
48 Thomas St., Meadin, Mich.

Desk Model H-75 is a new magnifier with a lens by Hy-X, one with 18-in. focal length. The unit is an assembly, in a plastic hood measuring 7 by 10 inches. Two fluorescent lamps rated at 4 watts each are assembled on the under face of the hood to illuminate the field of vision. Controls for the lamps are in the assembly base. Magnifier is the cross-arm.

**List price** is about $30. The new unit is shown in the upper right in the illustration. It supplements the previously developed pedestal and clamp-type assemblies.

▼ DETAILS—Circle 4; IEN-1093 if you write the maker ▼

## CHEMICALS . . Fluorine compounds available for research and development

Source: HALOGEN CHEMICALS INC.
614-18 King St., Columbia 5, S. C.

Ask company for chemical formulae

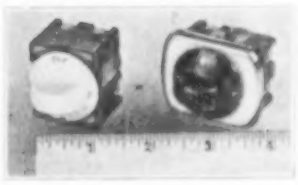
Ten fluorganics are announced by the company as available in research quantities for use in connection with applications as substitutes for refrigerating materials, solvents, insecticides, heat-transfer agents, refrigerants, insecticides, dyes, plastics, lubricants and hydraulic fluids.

**Qualities derive** from the electronegative characteristics of fluorine, include thermal stability and excellent chemical resistance, low boiling point, low surface tension, high fluidity, nonflammability, stability and other features.

▼ DETAILS—Circle 5; IEN-1094 if you write the maker ▼

## SWITCH . . Miniature rotary design for appliances, 15 amp. on 110-volt ac.

Source: HART MFG. CO.
108-12 Bartholomew Ave., Hartford 6, Conn.

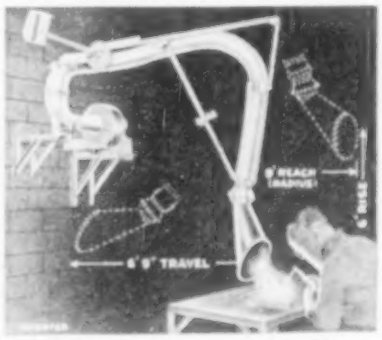


**Series 240** is a new design of small rotary switch available in snap-in and single-hole mounting designs. The former snaps into a rectangular opening where it is held by springs. Overall housing dimensions are 1¼ by 1 by 1¼ inches. The snap-in unit applies to an opening measuring 1⅝ by 1⅜ inches.

**The housing** is of heat-resistant plastic to assure efficient operation in ambient temperatures to 200 deg. F. Circuits include series parallel, 4-round, 4-quarter, both single and double pole, and various on-off and off-on combinations as required.

All Makers of These and All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 56

▼ DETAILS—Circle 6; IEN-1095 if you write the maker ▼


RUEMELIN Fume Collector
Removes Welding Fumes at the Source . . .

Why continue to let your employees inhale welding fumes? You can solve the problem quickly and efficiently by installing a Ruemelin Fume Collector. It produces a powerful suction that draws off noxious gases, smoke and heat at the source. Guards employee health, resulting in less welder fatigue, therefore greater plant output. Cleans shop air with minimum loss of building heat. Covers maximum welding area vertically, horizontally and by circle swing. Shipped assembled, easy to install. 8 ft. and 15 ft. area radius of swing.

Free engineering service for your fume collector needs! Write for New Bulletin 37-B

RUEMELIN MFG. CO.
8568 N. FOLMER STREET MILWAUKEE 10, WIS., U.S.A.
MANUFACTURERS AND ENGINEERS — SAND BLAST AND DUST COLLECTING EQUIPMENT — WELDING FUME COLLECTORS


▼ DETAILS—Circle 7; IEN-1096 if you write the maker ▼

To select the proper drive for any type of service

▼ DETAILS—Circle 8; IEN-1097 if you write the maker ▼


Is this the solution to your lubrication problems, too?

FOR more than 20 years, Farval has been saving money for users. Through efficient, dependable lubrication of machines and industrial equipment of all kinds, Farval saves it ways: It saves oiling labor, it saves lubricant, it reduces bearing expense, it eliminates down time.

The Farval System is a positive mechanical method of delivering oil or grease under pressure to a group of bearings from one Central Station, in exact quantities, as often as desired. It consists of a central pumping unit, two main supply lines and a measuring valve for each bearing.

Catalog No. 25 and "Case Studies" give you the facts and figures. The Farval Corporation, 5656 East 80th Street, Cleveland 5, Ohio.

Write for these FREE bulletins

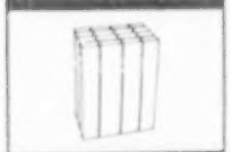
FARVAL
CENTRALIZED SYSTEMS OF LUBRICATION


▼ DETAILS—Circle 9; IEN-1098 if you write the maker ▼


SHIP IT BETTER, FASTER, SAFER for LESS with SIGNODE STEEL STRAPPING

For PACKAGES

. . . CONTAINERS



. . . BUNDLES

Products that go to market protected with Signode steel strapping are products that travel at low cost, arrive in better condition, return bigger profits.

The use of Signode steel strapping and scientifically designed strapping methods can pare your packaging and shipping methods on a production line basis, increase man-hour output, save time and materials, and give you maximum protection against pilferage.

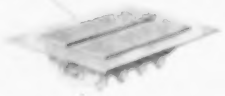
A trial order will convince you . . . or write for more detailed information and a copy of Signode's new "Answer Book" that shows how others are benefiting.

SIGNODE®

SIGNODE STEEL STRAPPING COMPANY
2611 NORTH WESTERN AVENUE • CHICAGO 47, ILLINOIS

REFERTO (Identify by IEN-1099 if you write the maker)

## STOP TRAMP IRON DAMAGE with DINGS PERMA-PLATE MAGNETS



**Low Cost . . . Powerful . . . Permanent . . . Highest Grade Alnico . . . No Maintenance . . . Lightweight**

The low cost, permanent magnetic protection against costly tramp iron damage to vital machinery, install powerful Dings PERMA-PLATE Magnets in chutes, ducts, hoppers, spouts, over conveyor lines, etc. These high grade Alnico pole magnets are your best bet for maximum tramp iron removal. They work equally well with wet or dry materials, and are unaffected by atmospheric conditions in or out-of-doors. Dings PERMA-PLATE Magnets are simple to install, easy to clean and their high mag-netic strength is guaranteed for mechanical life of the installation. Available in widths from 4" to 72" in 2" increments; special sizes on request. Write for Bulletin.

**Dings** MAGNETIC SEPARATOR CO. 4916 W. Electric Ave. MILWAUKEE 1, WIS.

REFERTO (Identify by IEN-1100 if you write the maker)

## STOP YOUR CRANES the way you stop your car with Wagner "Full Control" Hydraulic Brakes

Wagner Hydraulic Crane Bridge Brakes have been serving metal or industrial plants throughout the country. For safe, smooth stops, for controlled deceleration and slow, gentle lifting—equip your cranes with Wagner "Full Control" Hydraulic Brakes.

**Only Wagner Hydraulic Crane Bridge Brakes give you these features:**

- Two Sizes — Four Sizes — Cover the Field
- New Remote Control Bleeder
- New Self Centering Design
- New Systems easy to install
- Old Systems easily modernized

Write for Bulletin BU-40 on Wagner Industrial Brakes.

6414 PLYMOUTH AVENUE ST. LOUIS 14, MO.

ELECTRICAL EQUIPMENT AND AUTOMOTIVE BRAKE PRODUCTS

REFERTO (Identify by IEN-1101 if you write the maker)

## BIN-LEVEL CONTROLS

**2 BIN-DICATORS Often Replace 1 Man**

**BIN-FLO Aerating Units Keep Things Moving**

ECONOMICAL MATERIAL CONTROL

DEPENDABLE BIN-LEVEL INDICATION

Mail this Coupon

THE BIN-DICATOR CO., 1956 Rochester, Detroit 13, Mich.

Please send new 20-page catalog giving complete information and specifications on BIN-DICATORS. Also please send information on BIN-FLO Aerating Units ... No.

Name

Address

City Zone State

REFERTO (Identify by IEN-1102 if you write the maker)

## DRILLING . . Fifteen inch machine, 1 to 4 spindle heads, floor and bench

Source: ATLAS PRESS CO. 2891 N. Pitcher St., Kalamazoo 15, Mich.

The spindle of this new machine rides in two ball bearings in its steel quill and is fitted with a splined tipped end that slides in a second ball-bearing steel sleeve. The latter sleeve carries the V-belt sheave for connection to the drive motor at the rear of the head. The assembly eliminates any side pull on the spindle due to the drive and minimizes friction. The spindle nose can be equipped with a Jacobs chuck or a No. 1 or No. 2 Morse taper.

**Hand feed** is through 4 in. by operating a capstan in connection with a spring-controlled adjustable retaining tension. This feed can be limited as desired to pressure at the drill. Feed depth can be limited by an adjustable vernier-set stop. High and low speed ranges, either of which can be specified are from 500 to 5,200 rpm. and from 400 to 4,400 rpm. There are nine changes in each range by moving the V-belt on the step sheaves.

**The 10 by 10 in. work table** tilts to the right or left and locks in place. Maximum distance table to chuck is 11¾ or 12 in. on the bench design, 40½ or 41 in. on the floor model. A production table with a constant channel can be specified. It measures 13¼ by 10½ inches. The floor model measures 90 in. in overall height. The bench model is 26 inches. The column measures 2¾ in. in each case. Motor rating is ½ hp. at 1,725 rpm.

**Catalog D50**, 16 pages with 4-page price list, illustrates the basic design, describes the construction, tabulates the standard specifications in a maximum of four spindle heads.

REFERTO (Identify by IEN-1103 if you write the maker)

## DRIVE . . Variable speed unit, motor and geared V-belt transmission

Source: REEVES PULLEY CO. 800 No. Wilson St., Columbus, Ind.

Series 1000 designation has been given to the Motoldrive line of variable-speed equipment consisting of motor, V-belt variable transmission and geared head. The sizes rate ¼ to ¾ hp. Ratio is over a 10 to 1 range. Vertical and horizontal assemblies are included, the latter with the motor beside rather than above the output shaft as shown in the vertical-unit illustration.

**Class A** for 10 to 1 ratio within the series is assembled in a number of geared arrangements for output speed minimum at 2.2 to 400 rpm. and maximum at 32 to 4,000 rpm. List price in the ¼ hp. size ranges from $106 to $202.

**Bulletin M-1912**, 8 pages, presents illustration and description with dimension drawings and tabulations to assist in selection of size and class for given operating conditions. The tabulations include list prices of each assembly.

All Makers of Items and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

REFERTO (Identify by IEN-1104 if you write the maker)

## QUICK HEAT ...at the flick of a switch!

**NEW SILENT GLOW RADIANT HEATER**

For permanent installation to meet space heating needs, this new convenient overhead unit combines radiant heat plus forced air... with low initial cost, low upkeep, low operating cost. Thermostat assures fully automatic temperature control... operates without soot, smoke, fumes or carbon monoxide. Capacity of 160,000 BTU per hour.

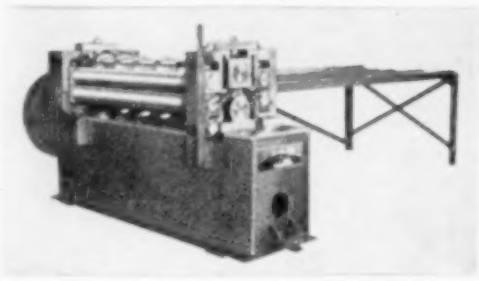
Write for complete details.

THE SILENT GLOW OIL BURNER CORP. 884 Windsor Street, Hartford 1, Conn.

REFERTO (Identify by IEN-1105 if you write the maker)

## RAFTER GANG SLITTER

*For Lasting Accuracy*



With or without feed rolls for the slitting of varied widths and gauges of metal. Machined and accurately ground cutter shafts made of high-grade carbon steel. Machine cut gears. Generous size bearings. Vertical adjustment of upper spindles allows regrinding of double edge type cutters. By removing two bolts, the end housing is drawn from cutter shafts permitting quick change of cutters. Spacer collars machined and marked for particular job, easily and simply removed for change over of various slitting widths. All features represent accuracy, speed and economy.

**RAFTER MACHINE COMPANY, INC.** SINCE 1917

249 Stephens St. Belleville 9, N. J.

COLD ROLL FORMING MACHINES & PRESS BRAKE FORMING DIES

REFERTO (Identify by IEN-1106 if you write the maker)

## CMH REX-WELD

**corrugated flexible metal hose**

**the answer to leakproof conveyance of high pressure, high temperature liquids and gases**

REX-WELD is manufactured in 300 series and steel with helical or annular corrugations, braided or unbraided. It is particularly suited for applications where vibration is a problem or where hose is subjected to pulsating flexing or bending.

The range of applications for REX-WELD is virtually unlimited. It is capable of handling pressures to 6000 psi and temperatures to 1000°F. Leakproof, even for corrosive liquids and gases.

Write for complete data.

**CMH** CHICAGO METAL HOSE CORPORATION MAYWOOD, ILLINOIS

Plants at Maywood, Elgin and Rock Falls, Illinois

In Canada: Canadian Metal Hose Company, Limited, Toronto, Ontario

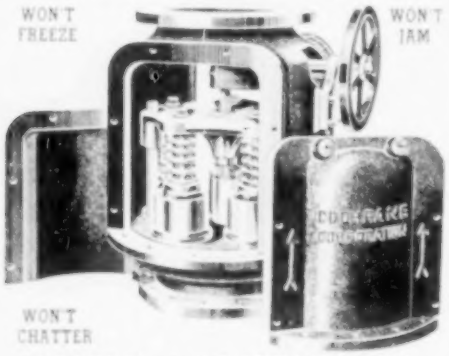
REFERTO (Identify by IEN-1107 if you write the maker)

## The Relief Valve That Never Fails

LARGER DISCHARGE AREA • EASILY ADJUSTED • CONTINUOUS RELIABLE OPERATION

WON'T FREEZE

WON'T JAM



WON'T CHATTER

NO LEVERS • NO STUFFING BOXES NO WEIGHTS

*Write for a copy of Publication No. 4150*

**COCHRANE** *Multiport* BACK PRESSURE RELIEF VALVE

COCHRANE CORPORATION, 3152 N. 17th St., Philadelphia 32, Pa.

In Canada: General Steam Equipment Co., Toronto

REPRINT—Identify by IEN-1108 when write the maker

# PHOSPHOR BRONZE

# HIGH

Tensile strength
Elastic limit
Resistance to fatigue
Resistance to corrosion
Resistance to wear

SHEETS
WIRE
TUBES
RODS

The AMERICAN BRASS COMPANY
Waterbury 20, Conn.

49278

# ANACONDA

REPRINT—Identify by IEN-1109 when write the maker

Ask for Catalog 50

It lists over 10,000 types, sizes and ratings of electric heaters, especially designed for industrial applications. Write today.

EDWIN L. WIEGAND CO. 7105 THOMAS BLVD., PITTSBURGH 8, PA.
See Chromalox Electric Heating Advertisement, Page 5

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

REPRINT—Identify by IEN-1110 when write the maker

## Corrosion Now Controlled by a Systematic Method

...using UCILON* Coatings

*Trade Mark

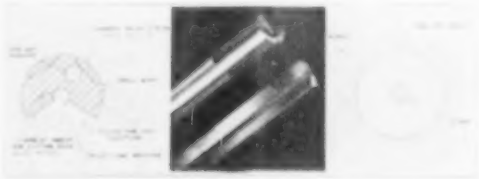
## UCILON Protective Coatings

UCILON products of UNITED CHROMIUM, INCORPORATED
51 East 42nd Street, New York 17, N.Y.
Detroit 20, Mich. • Waterbury 90, Conn. • Chicago 4, Ill. • Los Angeles 13, Calif.

REPRINT—Identify by IEN-1111 when write the maker

## DRILLING . . Deep hole or gun drill is piloted by the core it produces

Source: NATIONAL TWIST DRILL & TOOL CO.
46 National Square, Rochester, Mich.



Target trade names new design of drill for horizontal stationary applications on a gun-drilling machine in which the work is rotated. The drill is available in codes to diameters from 1/8 in. upward, each application requiring engineering attention by the company for specific conditions.

The drill carries a center hole on the side of which is the single radial cutting edge. This edge and wearing strips on the body can be carbide tipped for applications that will profit by this special design. The cutting tip extends between the center hole and the outside surface to cut a hole that leaves a center core on which the drill pilots. A through coolant system contact under high pressure.

REPRINT—Identify by IEN-1112 when write the maker

## LUBRICATING . . Penetrating oil to assist in equipment disassembly

Source: ENSIGN PRODUCTS CO.
3526-30 E. 76th St., Cleveland 5, Ohio

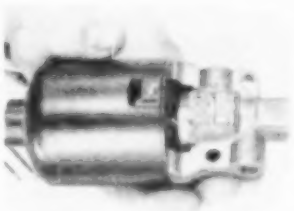
Penetrates by capillary action

For a trade [illegible] can be sprayed on or applied by dipping or swabbing to clean seizing parts. This oil may be used [illegible] to assemble [illegible] parts and is good for active protecting [illegible] conditions or hardness. Penetrating oil is [illegible] and operated [illegible] to 20 gal. [illegible]

REPRINT—Identify by IEN-1113 when write the maker

## VALVE . . Solenoid operated pneumatic in two or three-way design, 1/8 in.

Source: ROSS OPERATING VALVE CO.
118-22 E. Golden Gate Ave., Detroit 3, Mich.



Three-way design of the company's new "Ross" pneumatic operating valve with the blind connected side port is shown in the illustration. The valve is available also in two-way or [illegible] design. For control of liquids flow. It is made of [illegible] and suitable. The solenoid is subject to specification, the standard electrical characteristics are required by the installation.

All Makers of These and All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page M

REPRINT—Identify by IEN-1114 when write the maker

SAFETY EQUIPMENT FOR ALL INDUSTRIES

## IPCO M & M RAIL CLAMPS

Used for car stops, on loading platforms, temporary sidings, cars on grades and traveling cranes.

THIS — The Dangerous Way

OR THIS — THE SAFE WAY

Used and recommended by leading Steel Companies, Manufacturing Plants, Mines, Grain Elevators, Cement Plants and Quarries.

Write for Bulletin F-20

IPCO Safety Equipment for all Industries
INDUSTRIAL PRODUCTS COMPANY
2801 N. FOURTH STREET • PHILADELPHIA 33, PA.

REPRINT—Identify by IEN-1115 when write the maker

## The Model FA

*America's choice for better packages*

High speed, extreme versatility, economical operation, uniform perfect wrapping — these are the features that have made our Model FA the most widely used of all wrapping machines. Turning out up to 100 packages per minute, the FA handles cartons, open boxes, extra-stowage boxes, or flat sheets on a card. It is adaptable for virtually any plain or printed wrapping material, and is quickly adjustable for numerous package sizes. Moreover, only one operator is needed.

It will probably pay you to increase sales and lower costs—to add your product to the list of America's leading brand names which go to market FA wrapped.

*Write for our FA folder*

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS
NEW YORK CHICAGO BOSTON CLEVELAND ATLANTA DALLAS
DENVER LOS ANGELES SAN FRANCISCO SEATTLE TORONTO MEXICO D.F.

REPRINT—Identify by IEN-1116 when write the maker

## No More RESISTOR Failure

You get more reliable performance from Ward Leonard Resistors because all components react the same way to heat and other factors affecting service life.

Only in Vitrohm Resistors do you have all components under a single manufacturing control. This assures balanced characteristics—for longer, uninterrupted service.

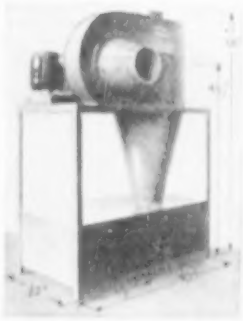
Write for Bulletin on Vitrohm Resistors. WARD LEONARD ELECTRIC CO., 31 South Street, Mount Vernon, N. Y. Offices in principal cities of U. S. and Canada.

WARD-LEONARD ELECTRIC CO.
Result-Engineered Controls
RESISTORS • RHEOSTATS • RELAYS • CONTROL DEVICES

REPRINT—Identify by IEN-1117 when write the maker

## STOP DUSTS

with DUSTKOPS
Low Cost, Efficient, Compact



For recirculating cleaned air or for outside exhaust (toxic or objectionable fumes). Twelve models (314 to 900 cfm) to collect dust from: grinding, buffing, polishing, sanding, wire brushing, bagging, blast cleaning, trimming, woodworking, etc.

Model [illegible] cfm exhaust [illegible] air outlets.

Model [illegible] cfm exhaust [illegible] air outlets.

[illegible] are the best choice for Diamond VRG Polishes.

For recommendation by return mail, describe the problem. No obligation. New Catalog 501 now ready.

AGET DETROIT CO.
401 Main at Washington St.
Ann Arbor, Michigan

▼ REPRINTS—Identify by IEN - 1118 if you write the maker ▼

# New!

Streamlined No. 214A
Stanley
**UNISHEAR**
cuts up to 14 gauge steel

Lock for the light weight job is. Be at the constant handiness only. Hole long for gun, that are Stanley No. 214A Unishear is a top performer for days through tough sheet metal up to 14 gauge hot rolled steel, at speeds up to 40 ft. a minute. Cuts inside or outside straight lines, curves, angles, notches — to the box. Interpreted blade adjustment. Duplex handle with dual operated switch for handling in any position. Full ball bearing construction. Universal motor. Cradle mounting for converting into an Heavy Duty cutting machine. Also circle cutting attachment. Other models to cut 18 ga., 16 ga., 14 ga., 12 ga., 10 ga., 8 ga., and 6 ga.

Write for Unishear booklet 544 Stanley Electric Tools, 168 Mystic Street, New Britain, Connecticut.

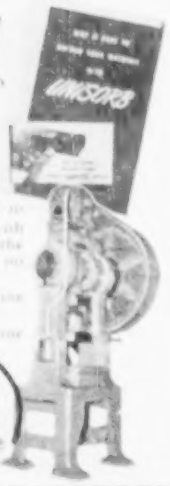
STANLEY
Reg. U.S. Pat. Off.
HARDWARE · HAND TOOLS · ELECTRIC TOOLS · STEEL STRAPPING

▼ REPRINTS—Identify by IEN - 1119 if you write the maker ▼

▼ REPRINTS—Identify by IEN - 1120 if you write the maker ▼

# Send Coupon Today for Your FREE Copy

"WHY IT PAYS TO ANCHOR YOUR MACHINES WITH *UNISORB*"



Here's the book that tells you how to:

- Avoid destructive floor-drilling with UNISORB machine anchoring — the modern way that needs no bolts, no lag screws.
- Eliminate costly floor-transmitted machine noise and vibration.
- Achieve a safe, dependable machine mounting that lasts for years and years with no maintenance.
- Save time, expense and confusion when installing new machinery or rearranging present machinery.

The FELTERS Co.
[illegible] STREET
BOSTON 11, MASS.

Gentlemen:
Please send me free copy of "WHY IT PAYS TO ANCHOR YOUR MACHINES WITH UNISORB"

NAME
COMPANY TITLE
STREET
CITY & STATE

▼ REPRINTS—Identify by IEN - 1121 if you write the maker ▼

## PACKAGING . . Bag making machine for 10 to 25 lb. multi-wall paper bags

Source: POTDEVIN MACHINE CO.
1219-23 38th St., Brooklyn 19, N. Y.

**Model 81-BA** is a new automatic machine capable of making 150 to 200 self-opening square-bottom bags per min. of single, double or triple-wall design. It takes the tube from three stock rolls to the right as the machine is illustrated. It stacks the finished bags on a delivery table to the right of the final pressure drum at the left-hand end. The bags can be punched with holes when they are to be used for petatoes.

The stock spindles for the paper take rolls to 40 in. in diameter. One of the three feeds through a cube-conditioning unit to a web-slitting unit at the top of the stand to the left of the roll stands. It feeds down from there through a doctor roll to seam paste pots and wheels where it joins the other two runs. The second of the paper webs roller through a web-slitting unit to a cross-pasting unit and down from there to the seam paste pots. The third web passes through the slitting unit to the seam paster.

**All three ride together** through an inserted former and then through a series of sutters, feed rollers, cut-off cylinders with elliptical gear drive, forwarding and bottom punching rollers, another set of forwarding rollers to a score and bottom opening cylinder and from there to the bottom forming drum, bottom paster and tucker, all to the stand assembly third from the right in the illustration. The bags feed from here to a double conveyor belt to be carried around the pressing drum and stacked on the delivery table.

▼ REPRINTS—Identify by IEN - 1122 if you write the maker ▼

## EXTINGUISHING . . Valve handle for company's carbon dioxide cylinders

Source: WALTER KIDDE & CO.
673-77 Main St., Belleville 9, N. J.

**New assembly** of carrying handle and trigger-operated valve applies on the externally-threaded designs in the company's 10 to 25-lb. portable carbon-dioxide extinguishers. The valve employs a coined nickel disc that serves as a seat for the nylon check, as a safety disc and as a gasket between the valve body and the cylinder.

**The valve** holds tight at a pressure of 850 pounds per sq. in. from the compressed carbon-dioxide gas without affecting easy operation in opening movement. If the disc ruptures, the trigger is pushed down to bring the words "Rupture Disc" into view to indicate the fact.

All Makers of These and All Other Products Are Listed In THOMAS' REGISTER · Descriptions · Ratings · See Page 58

▼ REPRINTS—Identify by IEN - 1123 if you write the maker ▼

## Bulletin 712-13 A-C Combination Starting Switches

A-B Quality

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

▼ REPRINTS—Identify by IEN - 1124 if you write the maker ▼

# SMOOTH AS A GUN BARREL!

SUPER FINISH BORE ON UNIVERSAL DRILL BUSHINGS LENGTHENS BUSHING LIFE. REDUCES TOOL BREAKAGE

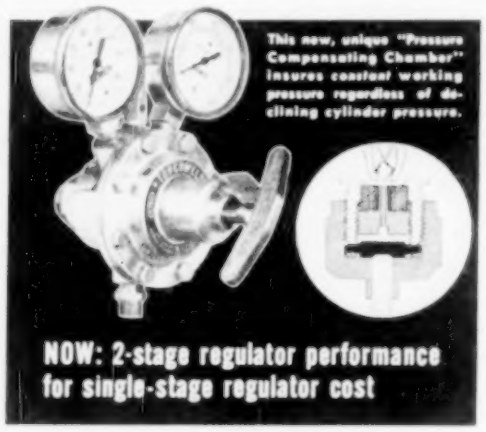
To super finish I. D., add such plus features as bleeded, radius, knurled head, I. D. bevel, chamfered O. D., and you have the reasons why Universal Drill Bushings are specified by many of America's leading manufacturers. Universal provides extra prompt sectional delivery and information from warehouses at 1940 Broad Street, Newark, N. J., and 3035 Sixth Ave., Kenosha, Wis. Write, call or wire today.

UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 6, MICHIGAN

▼ REPRINTS—Identify by IEN - 1125 if you write the maker ▼

# BIGGEST NEWS

in regulators in 20 years

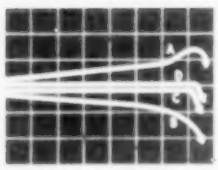



# TORCHWELD "6500"

*A brand new type, a radically new design*

Now . . . a regulator with all the operating advantages of a two-stage regulator but at a price only slightly more than the average single-stage regulator and just as economical to maintain. It's the revolutionary new TORCHWELD "6500" — a good one in NCG manner and design.

At the diagram below shows, typical three-stage [illegible] regulators "A" delivers approximately rocket-starting pressures as the cylinder pressure drops, and typical two-stage (or single-stage regulator) "B" delivers progressively lower working pressures.



Now, the TORCHWELD "6500" duplicates the constant pressure performance of the high-priced two-stage regulator. "C" has as a substantial saving in original price and maintenance.

Write for Illustrated Bulletin

NATIONAL CYLINDER GAS COMPANY
844 North Michigan Avenue Chicago 11, Illinois

NCG
EVERYTHING FOR WELDING

▼ REPRINT—Identify by IEN-1127 if you write the maker ▼

# MARK IT FOR MARKET!

Modern Marking Machines now enable most manufacturers of metal components to identify their products at trifling cost.

YOUR NAME
MODEL NUMBER
PART NUMBER
SERIAL NUMBER
OR DECORATIVE
DESIGN ROLLED
INTO YOUR
PRODUCTS WILL
HELP YOU
MARKET THEM.

Send prints of parts, showing required marking and its location on part with hourly production for free recommendation.

WRITE FOR CATALOG

GTS **GEO. T. SCHMIDT, INC.**
4108 N. Ravenswood Ave.
CHICAGO • 13 • ILLINOIS

▼ REPRINT—Identify by IEN-1128 if you write the maker ▼

*For Magnet Wire*

GO TO HEADQUARTERS

• When you standardize on Anaconda Magnet Wire you can select exactly the right wire and the right insulation for every conceivable winding job. There's an Anaconda wire to fit every requirement of space, operating temperatures, service conditions and winding techniques. At your disposal also are scientific data and technical assistance unrivalled in the industry.

In controlling its product from the ground to your door, Anaconda is your best assurance of uniformity in magnet wire and coils.

*Anaconda*
MAGNET WIRE

ANACONDA WIRE AND CABLE COMPANY
Subsidiary of Anaconda Copper Mining Company
20 North Wacker Drive, Chicago 6, Illinois

▼ REPRINT—Identify by IEN-1129 if you write the maker ▼

HERE'S COMPACT, DEPENDABLE, PRECISION-BUILT, MOTORIZED SPEED REDUCTION

The Philadelphia GearMotoR is a self-contained, extremely compact unit that conforms to the recommended standards of the American Gear Manufacturers Association and National Electrical Manufacturers Association . . . Available in single, double and triple reductions . . . Range of speeds: 780 through 7.5 R.P.M. Motor Rating from 1 H.P. through 60 H.P. . . . AC or DC.

Send for new 42 page illustrated catalog, and please use your Business Letterhead when writing for same.

PHILADELPHIA GEAR WORKS, Inc.
Industrial Gears and Speed Reducers
Erie Avenue and G Street Philadelphia 34, Pa.
NEW YORK • PITTSBURGH • CHICAGO • HOUSTON
In Canada: William J. G. Gross Limited, Toronto

▼ REPRINT—Identify by IEN-1130 if you write the maker ▼

## FILING . . Carbide faced discs for use on non-ferrous metals, plastics

Source: KENNAMETAL INC.
100 Lloyd Ave., Latrobe, Pa.

New disc file is made by mounting Kennametal carbide in the form of a steel backing plate, the individual carbide pieces being in the form of triangular prisms. Circles of these prisms cover the plate to present many cutting edges with 30-deg. negative axial rake and clearance angle and 10-deg. negative radial rake. Application removes chips of material from a work surface.

Four sizes are 6 to 12 in. in diameter. Mounting can be made to a grinding machine, abrasive-belt machine, on a motor shaft or a disc filing machine. Recommended speed is 5000 to 7000 fpm. for hard materials, 8000 to 9000 fpm. for soft materials. List price is $107 to $205.

▼ REPRINT—Identify by IEN-1131 if you write the maker ▼

## MARKING . . Metal tags available in specified metals, shapes

Source: METAL MARKER MFG. CO.
1391-95 E. 40th St., Cleveland 3, Ohio

Ask for literature
Metal Marking Tags

The company announces an extension to its previously developed line of metal marking tags so the units are now available to specifications in aluminum, brass, Monel Metal, steel, magnesium, zinc. Sizes range from ¼ in. by ¼ in. to 6 by 6 in., square, round, oblong or in special shape that will fall within these overall dimensions. Location of holes is subject to specification also as well as the impressed or relief characters carrying the trade name, patent notice, serial number, property accounting, identification instructions.

▼ REPRINT—Identify by IEN-1132 if you write the maker ▼

## PLATES . . Plastic surfaced paper for single time use, hot or cold food

Source: BOWES INDUSTRIES INC.
5535-39 N. Clark St., Chicago 40, Ill.

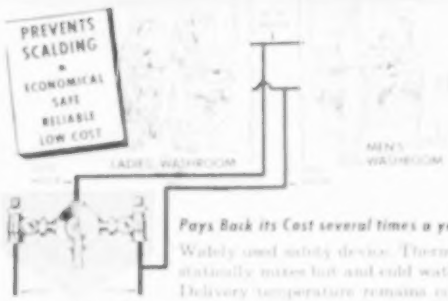
Boodware from canvas with plastic surfaced paper plates on which to serve hot or cold food to a plant cafeteria. The plastic is tasteless, odorless and will not absorb grease or sauce either hot or cold. Any sauce and three meat at 6, 8 and 10 oz. are included in the line. After each plate has been used once it is discarded. The illustration shows hot coffee being poured in a plate on a tray of the plastic. It was not affected.

The plastic surface is drawn in the surface resembling china. The fluted sides and raised edges provide strength and excellent appearance to the plate.

All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

▼ REPRINT—Identify by IEN-1133 if you write the maker ▼

**POWERS** *Control saves Hot Water!*




Type HVE-10-FH
POWERS THERMOSTATIC WATER MIXER
One mixer serves 5 or 6 washbowls (based on water pressure of 45 lbs.)

Has Many Uses
X-Ray and Color Film Processing • Shower Baths
Industrial Processes
Hospital Hydrotherapy

Other Controls with Capacities up to 1000 gals. per min.

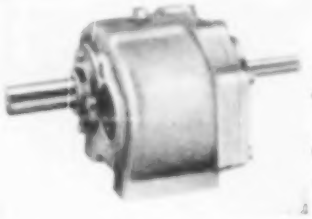
*Pays Back its Cost several times a year*

Widely used safety device. Thermostatically mixes hot and cold water. Delivery temperature remains constant wherever set regardless of pressure or temperature changes in water supply lines. Failure of cold water instantly and completely shuts off delivery. Available with various temperature ranges and capacities.

THE POWERS REGULATOR CO.
2737 Greenview Ave., Chicago 14, Ill.
Offices in 20 Cities

POWERS
▶ Get Bulletin 358-H
THERMOSTATIC WATER MIXER

▼ REPRINT—Identify by IEN-1134 if you write the maker ▼



*2-speed automatic* TRANSMISSION

*. . used to supplement constant-speed and multi-speed motors . .*

. . with the advantages of providing broader range of speeds, and special ratios not obtainable electrically . . In the five horsepower (illustrated) model, with a 1750 rpm input speed, the low limit of reduction is 6.31 to 1 but any pre-selected ratio, from direct motor speed to this low limit, is obtainable . . WESTERN Two-Speed Automatic Transmissions are built to handle 5, 10, 15, 20, 25 and up to 50 horsepower motors . . *Send for complete information.*

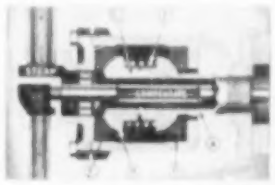
*up to 30 h. p.* For Operating Lathes, Milling Machines, Shapers, Turret Lathes, Radial Drill Presses, Gear Cutters, Gear Hobbers, Gear Shavers, Gear Grinders, etc.
**WESTERN TRANSMISSIONS**
WESTERN MANUFACTURING CO., 2400 WESTERN—DETROIT, MICHIGAN

▼ REPRINT—Identify by IEN-1135 if you write the maker ▼

**TO GET STEAM IN— WE CAN HELP OUT!**

For admitting steam or any liquids to rotating machine parts the Johnson Joint has introduced an entirely new concept of efficient, maintenance slashing operation. Applications today range from pencilling to paper machines, from rubber mills to rotary wing aircraft. In contrast with old style stuffing boxes Johnson Joints are completely packless, self lubricating, self adjusting, self aligning. Be sure you have all the facts on hand.

*Write for newly published catalog*



The JOHNSON CORPORATION 805 Wood Street Three Rivers, Mich.

**Johnson** *Rotary Pressure* **Joints**

▼ REPRINT—Identify by IEN-1136 if you write the maker ▼

# BEND THIN-WALL CONDUIT PROFITABLY

*New!*

Hydraulic "Porto-Power" brings you Spectacular Speed — Easy Operation — Fine Workmanship

Make bend inside Safety Handle (in 10 and 15 mm.). Permanent methods. Parts off on left stand (10). Bar from loading supply hopper. 10-10 of a permanent supporting fulcrum. 10-10. To demonstrate a big line of low cost hydraulic equipment for making all popular pipe and conduit. Write Chief's Mfg. Co., Dept. P-1020 Milwaukee 1, Wis.

**BLACKHAWK**

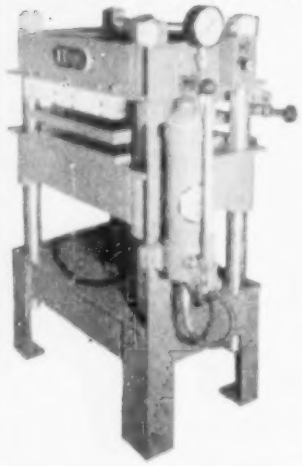
REFFITT—Identify by IEN-1137 if you write the maker

# INSURANCE AGAINST DAMAGING WATER DRAINAGE

**Taber Pump Co.**
ESTABLISHED 1857
268 ELM STREET, BUFFALO 3, N. Y.

REFFITT—Identify by IEN-1138 if you write the maker

# NEW HYDRAULIC PRESS FOR PLASTIC OPERATIONS



Designed for
Polishing
Laminating
Die-Cutting

•

Electric
or
Steam-Heated
Platen

•

Capacities
10 to 50 Tons

•

Hand or Power
Operated

•

Platen Sizes
12" x 12"
to 24" x 30"

*Ideal for short-run production and specialty fabricators*

LINK ENGINEERING CO
13846 Elmira Detroit 27, Mich.

Write for Catalog

REFFITT—Identify by IEN-1139 if you write the maker

# No More Guessing

No

More

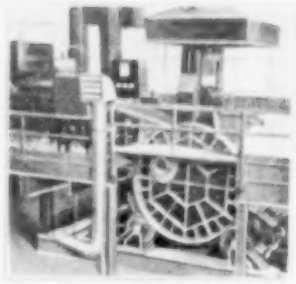
Guessing

P.A. STURTEVANT CO.
ADDISON (QUALITY) ILLINOIS

REFFITT—Identify by IEN-1140 if you write the maker

## MELTING . . Induction furnace holds 10 ton of brass, 6 ton per hour

Source: AJAX ENGINEERING CO.
Hancock & Lalor Sts., Trenton 7, N. J.



Rating is [illegible] for this new tilting induction melting furnace in the company's Ajax-Sutter line. It was built to specification to melt brass that feeds to the new continuous casting equipment developed by Scovill Manufacturing Company. The furnace mounts above the casting machine which feeds its continuous cast billet downward to enter the new Scovill brass rolling mill.

REFFITT—Identify by IEN-1141 if you write the maker

## STEEL . . Chromium-nickel stainless for parts to be cold headed, coined

Source: CARPENTER STEEL CO.
351 W. Bern St., Reading, Pa.

Typic analyses

| | |
|---|---|
| Carbon | 0.08% |
| Chromium | 16.00% |
| Nickel | 18.00% |

Work hardening occurs [illegible] in the company's new No. 10 stainless steel as compared to other types of stainless made by the company. As a result the steel is called for use in parts that must be cold headed, upset, coined. Examples are cold-headed bolts, screws, upset nuts. Fabricators are parts with recessed heads. The steel is useful also for parts that must remain non-magnetic after severe cold working.

Available forms include hot rolled bars in ½ to 6 in. rounds and ¾ to 2 in. hexagons and squares; cold finished rounds from ⅛ to 4 in. and hexagons from ¼ to 2 in.; wire and wire rods from .050 to ⅜ inch. Increased sizes are forging billets to 9 by 9 inches. The company will send detail warning, inspections and data on characteristics and properties.

REFFITT—Identify by IEN-1142 if you write the maker

## GAGE . . Sapphire and carbide points for application in dial indicator gages

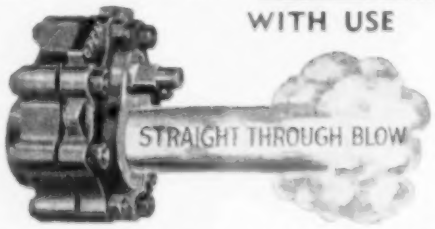
Source: PRECISION SUPPLY & MACHINE CO.
1 E. 42nd St., Room 404, New York 17, N. Y.

New line of contact points with sapphire or carbide tips is available to fit any specified dial indicator. Shapes are also to specification. Representative units are shown in the illustration. Characteristics are resistance to wear, dense surface that will not change or pick up foreign matter. List is $5 each.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 10*

REFFITT—Identify by IEN-1143 if you write the maker

# The Valve that IMPROVES WITH USE




In the EVERLASTING VALVE, the disc is always in contact with the sealing surface of the seat. Each time the valve is opened or closed, the disc moves across the seat with a rotating motion, and this self-lapping action continuously polishes the sealing faces, keeping the seal drop-tight.

And note these additional EVERLASTING features . . . straight-through flow . . . no lubrication required . . . quick operation . . . no wedging. These unique valves are ideal for all blow-off, aligned equipment outlets and many other services, and are available for all liquids, vapors and gases. Write for bulletin today.

EVERLASTING VALVE CO., 49 Fisk Street, Jersey City 5, N. J.
Trade Mark "EVERLASTING" Reg. U. S. Pat. Off.

# Everlasting Valves

*for everlasting protection*

REFFITT—Identify by IEN-1144 if you write the maker

# IMPACT RESISTANCE

*. . . is the final test*

CESCO safety-lens goggles with or without cushions, fit over the exclusive Comfort Bridge.

CESCO Super-Safety lenses are guaranteed to stand up against flying particles of glass and metal even when subjected to impact. In the laboratory, CESCO safety-type safety goggles withstand severe impact tests. On the job, hundreds of thousands of CESCO goggles have proved their strength and quality in use. Add comfort and durability as additional features of CESCO goggles and you can claim **For Safety, use CESCO.** Available with lenses in filter tones. Write for catalog showing CESCO's full line of safety goggles.

**FREE!...**
Send your name on company letterhead for "Safety Notes" and CESCO's handy pocket reference card.

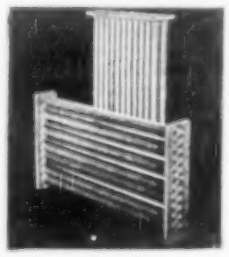
CHICAGO EYE SHIELD CO., 2326 Warren Blvd., Chicago 12, Illinois

**CESCO** FOR SAFETY

REFFITT—Identify by IEN-1145 if you write the maker

# ROME HELICAL-FIN TUBING

*Over 90 Sizes in Production*



Rome extended surface Helical Fin Tubing is a highly efficient—compact surface for heat exchanging work. It is supplied in either straight lengths, coils, or U bends with or without threaded end connections; or it may be used with standard flare connections. It is used for:

- Water Cooled Refrigeration Condensers
- Air Cooled Refrigeration Condensers
- Steam Condensers
- Dry Cleaning Fluid Recovery Condensers
- Air Compressor Intercoolers and Aftercoolers
- Oil Coolers for Diesel Engines
- Fan Type Air Heating Coils
- Fan Type Air Cooling Coils
- Fan Type Unit Heaters
- Refrigeration Evaporators and Brine Cooler Coils
- Turbine Air Surface Coolers
- Room Heating Convectors (Concealed Radiation)
- Diesel and Truck Engine Cooling Radiators
- Railway Diesel Engine Cooling Systems

Rome Helical Fin Tubing is used and specified by nearly all large Nationally Known manufacturers of heat exchanging equipment.

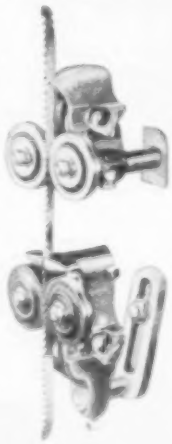
**ROME-TURNEY RADIATOR COMPANY**
Mfrs. of Refrigeration Condensers — Concealed Copper Radiation
Blast Air Heating and Cooling Coils and Other Transfer Equipment
200 EAST FRONT STREET ROME, N. Y.

REFFITT—Identify by IEN-1146 if you write the maker

MORE SPEED MORE SUPPORT

# CUT COST OF SAW BLADE REPLACEMENTS

SPEED UP PRODUCTION



- Paddock Ball-Bearing Band Saw Guides will more than pay for themselves in a very short time by (1) Saving on Blade Breakage, (2) Speeding up production, (3) Cutting any materials at any speed, and (4) Protecting workmen. The whole secret of Paddock Efficiency: **Interchangeable ball-bearing wheels running with blade give strong yet friction-free support.** Send on ten-day FREE TRIAL. They make any band saw cut or saw work better in the hands of novice and pro.

PADDOCK TOOL CO.
1418 Walnut Street Kansas City 6, Mo.
Blade Makers Since 1920

**Paddock**
BALL-BEARING
BAND SAW GUIDES

REPRINT—Identify by IEN-1147 if you write the maker

# In AIR CYLINDERS

## It's MUSCLE you need!

AIR CYLINDERS

Are all Muscle. No Useless Fruff! JLE Air Cylinders invite cost comparison . . . tell us the size cylinder you're interested in or are using and we'll give you JLE's cost figure for comparison. JLE Air Cylinders are made to any stroke in standard bore sizes from 1½" to 10". — Top operating pressure 150 lbs. per sq. in. Single or double acting. Choice of four standard mountings and of end cushionings.

Distributor Territories Open . . . Best Ones Going Fast. Write Us Your Qualifications Now!

JAMES L. ENTWISTLE CO.

430 CHURCH STREET, PAWTUCKET, R. I.

REPRINT—Identify by IEN-1148 if you write the maker

# THE New FLEX-A-FOAM FILTER MASK

DUST PROTECTION YOUR WORKERS WELCOME and WEAR

No respirator does any good unless workers will wear it. Even if your men won't use old-fashioned respirators — cumbersome, grotesque, chafing—they'll be glad to wear the new Flex-A-Foam Filter Mask. Here's why:

- It's a featherweight—only 1 ounce.
- It's snug and comfortable—adjusts to any face size.
- It's easier to breathe and talk through than a linen handkerchief.
- It's smartly styled—workers don't look or feel peculiar.

Flex-A-Foam's filter is a honeycomb of whipped foam latex that keeps out non-toxic nuisance dusts as small as 1/25,000 of an inch! Frames are of new DuPont polythene plastic—so flexible they adjust themselves to any facial contours yet so tough they're unbreakable in normal usage.

For new comfort, new efficiency —new economy, too—order Flex-A-Foam Filter Masks — lowest priced quality respirator on the market.

*Attention Agents and Jobbers: Your interest is invited.*

THE GOGGLE PARTS COMPANY, Cleveland 13, Ohio

REPRINT—Identify by IEN-1149 if you write the maker

# Repair CRACKED CONCRETE FLOORS

When your concrete floors develop cracks, ruts, shallow holes or rough spots, repair them with Smooth-On No. 7B Quick Floor Patch Cement. It comes in powder form ready to mix with water. Simply apply Smooth-On No. 7B as you would plaster. Smooth-On No. 7B expands slightly as it hardens, insuring a secure, tight fit. You get an non-hard surface that can take the punishment of heavy traffic. Order Smooth-On No. 7B Quick Floor Patch Cement in 1, 5, 25, or 100 lb. size.

## FREE Folder and Repair Handbook

Write for your copy of the illustrated Smooth-On Quick Patch folder and the famous Smooth-On Repair Handbook. Pocket size, 40 pages, 170 simple illustrations. Shows how to make more immediate money-saving repairs.

SMOOTH-ON MFG. CO., Dept. 1
570 Communipaw Ave., Jersey City 4, N. J.

Do it with SMOOTH-ON QUICK FLOOR PATCH CEMENT

REPRINT—Identify by IEN-1150 if you write the maker

# WASH ROOMS . . Toilet flush pedal is adjustable for any installation

Source: APPROVED PRODUCTS CO.
205 E. 42nd St., Rm. 1400, New York 17, N. Y.

New assembly of pedal, flushom plate, lever arm and bow-shaped upright with the required fittings make up this new Easy Flush unit. The parts are made of brass with polished chromium plate finish. The design permits application to any tank for flush on the right or left hand side and for any type of flush tank or valve. Application does not interfere with manual operation of the flush lever or handle. List price is $13.75 with a lever-upright vertical rod adjustable to 30 in. in length.

REPRINT—Identify by IEN-1151 if you write the maker

# STRIPPING . . Viscous liquid solvent loosens paint, varnish from wood

Source: HUNTINGTON LABORATORIES INC.
Hunt St., Huntington, Ind.

Applied by brush or sprinkler mop

Wade Seal Remover is a new water bodied liquid for application on and vertical or horizontal surfaces. It evaporates quickly, permitting use for doing interior or exterior the same day. It will loosen or soften enough to be wiped off with the brush applicator in one stripping operation. The liquid is non-inflammable and non-corrosive. It is not harmful to the most sensitive human complexion or the surface.

REPRINT—Identify by IEN-1152 if you write the maker

# FASTENING . . Torque type lock nut in sizes from No. 10-24 to ½ in. 20

Source: SHAKEPROOF INC.
2501 N. Keeler Ave., Chicago 39, Ill.

Tri-Lok and Hex-Lok are two torque-type designs in the Lock-Nut line which the company is now manufacturing under exclusive license from Boots Aircraft Nut Corporation. The nuts are made of SAE 1020 steel and are available in American National Coarse or Fine Thread Series, Class 2 tolerance. The flat bottom being threaded into place by the pinching action resulting from pressing the flats against one the rear face after the threads have been cut. The nut starts free on a thread right up when the deformed area is reached.

All Makers of These and All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 50

REPRINT—Identify by IEN-1153 if you write the maker

# Stanzoil

Light Weight RSW-13's

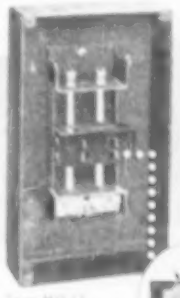
Tough, Sheer . . . Sure Grip on Oily Parts

These new "Stanzoil" cable weight Stanzoil RSW-13's are designed for pressing and finishing rubber gloves, and assembly hand powder machine etc. Sheared to the square specified to avoid fitting problems, with knit cuffed and long gauntlets. Finished 10 gauge, 13 inches greater measurement. Stanzoil gloves are made of heavy specimen quality rubber. Your plant should find production advantages in using heavy handling gloves. Write for complete catalog, discounts & free sample.

The Pioneer Rubber Company
Los Angeles, California

STANZOIL — OVER 30 YEARS OF QUALITY GLOVE MAKING — PIONEERS

REPRINT—Identify by IEN-1154 if you write the maker



# type MULTI-BREAKER LOAD CENTERS

Start with 4 circuits

Add more as needed

Type MO 12

Type MO 20

Write for Bulletin SA 190. Address Square D Company, 4040 Rivard Street, Detroit 11, Michigan.

SQUARE D COMPANY

REPRINT—Identify by IEN-1155 if you write the maker

# ADAMS Aftercooler and Cyclone Separator

Dry, Moisture-Free, Oil-Free Air . . .

for your Compressed Air Tools

Write for Bulletin 703

R. P. ADAMS CO., INC. 219 E. PARK DRIVE BUFFALO 17, N. Y.

REPRINT—Identify by IEN-1156 if you write the maker

OKONITE insulated wires and cables

▼ BRIEFITS—Identify by IEN-1157 if you write the maker ▼

WESTERN PATTERN with
SPREAD EAGLE
CENTER STRAPS

THE OPERATOR CAN REACH THE LOAD

THE TOP PACKAGES WON'T FALL OFF

No. 23 Western Eagle

WRITE DEPT. B2 FOR CATALOG AND PRICES

LANSING COMPANY

TRUCKS • TRAILERS • BARROWS • CASTERS • CARTS

"Keep Your Products on Wheels"

MAIN OFFICE AND FACTORY
LANSING, MICHIGAN

BRANCHES AND REPRESENTATIVES IN PRINCIPAL CITIES



▼ BRIEFITS—Identify by IEN-1158 if you write the maker ▼

Send for free booklet

GENERAL BOX COMPANY

★ ★ ★ ★ ★ engineered shipping containers

GENERAL OFFICES: 1004 Dearborn St., Chicago 10, Ill.
DISTRICT OFFICES AND PLANTS: Brooklyn, Cincinnati, Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, Meridian, Sheboygan, Winchester.
Continental Box Company, Inc.: Houston, Dallas



▼ BRIEFITS—Identify by IEN-1159 if you write the maker ▼

YOUR GEARS...

... produced

EFFICIENTLY, ECONOMICALLY

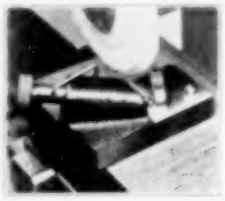
FAIRFIELD MANUFACTURING COMPANY
811 S. Earl Avenue — Lafayette, Indiana

FAIRFIELD for FINE GEARS!


▼ BRIEFITS—Identify by IEN-1160 if you write the maker ▼

## GRINDING . . Sharpening fixture for Bokum single-point boring bits

Source: BOKUM TOOL CO.
14773-77 Wildemere Ave., Detroit 21, Mich.

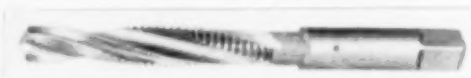


Fixture AB-1 is a new accessory of cast iron base, (1) universal adapter to hold the Bokum single-point boring bit, a carbide ring to position the bit and a diamond that is set in a socket in the base to dress and true the grinding wheel continually. The fixture applies on a magnetic chuck on the table of a suitable grinding machine such as Brown & Sharpe. The grinding operation requires minutes of only a few thousandths from the bit under ordinary conditions. The fixture assures correct positioning for the bit, guarantees the operation. The company supplies an instruction sheet.

▼ BRIEFITS—Identify by IEN-1161 if you write the maker ▼

## THREADING . . Combined drill and tap for 1/4 to 3/4 in. threaded holes

Source: MOHAWK TOOL CO.
21645-49 Dequindre Road, Hazel Park, Mich.



Sixteen sizes are included in new line in which a tap is integral with the correct size of tap drill so a through hole, as in a flange, can be drilled and tapped in one operation. Drill size ranges from .201 to .6875 in. and tap size from 1/4 to 3/4 in. NC and NF threads. Tool grinding to keep the drill sharp is matched by grinding the thread flutes back a similar amount so that the effective drill length remains.

▼ BRIEFITS—Identify by IEN-1162 if you write the maker ▼

## SAWING . . Bandwheel rubber tire rides in groove machined in the wheel

Source: CARTER PRODUCTS CO.
964 Michigan Trust Bldg., Grand Rapids 2, Mich.

Jiffy Tire is a new wood-rubber tire fitted with integral rubber cleats or grippers to ride in a groove machined in the wheel rim on a band saw machine. The company is prepared to supply the rubber tires through any manufacturer of saw machines so he can equip his wheels and make up complete new equipment or can recall wheels from machines in service for the same purpose. Once the groove is in the wheel the machine user can remove a worn tire and place a new one with the aid of a little soap and a soft-fire hammer.

All Makers of These and All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 10


▼ BRIEFITS—Identify by IEN-1163 if you write the maker ▼

PROTECT Delicate Parts with

ARNO TUBE SEALS

Do you have unusual problems of protecting delicate parts of instruments that you must clean quickly, effectively and cheaply? Try Arno Tube Seals. Ideal for effective closures including curves, narrows and pipes. Uses include of tube bound and spot tapes. By Net-Stick adhesive. We can direct you to sources of supply. Arno tapes used by aircraft and other instrument users. Write for free samples and by our engineers make a recommendation.

Do you need the best adhesive tapes? We have facilities for cutting to size or shape. Send us a sample for quotation. Send a pattern or sketch and let us quote with care.

Manufacturers Distributors Exclusive

ARNO ADHESIVE TAPES, Inc.
MICHIGAN CITY, INDIANA



▼ BRIEFITS—Identify by IEN-1164 if you write the maker ▼

NO SPRINGS TO BREAK in the Nutting JACK

IT'S ALWAYS DEPENDABLE

The Nutting Jack is the ONLY jack operated entirely by gravity and leverage. With no springs to break, there is no danger of your whole jack and system suddenly being out of service.

One lift truck and two steel skids cost about the same as two Nutting jacks and twelve sensitive skids. That's one reason why the Nutting jack and Skid system can be such a money-saver in your plant. Material stored on sensitive skids is made mobile in a Nutting. The jack may be coupled to one skid, then uncoupled and coupled to another faster than the time it takes to fall about it.

Send for Bulletin 48-JS

Look in your classified phone directory for your Nutting representative, or write for Bulletin 48-JS. It will pay you to get all the facts on this modern Nutting Jack-Skid handling system.

Nutting makes everything in floor trucks, wheels, casters

NUTTING TRUCK AND CASTER COMPANY
2011 Division Street, Faribault, Minnesota



▼ BRIEFITS—Identify by IEN-1165 if you write the maker ▼

SYNTRON

Vertical — Vibratory

SMALL PARTS FEEDERS

SAVE TIME — SPEED UP WORK

By Providing Automatic, Oriented Position, Single Line Feeding of—

various types of small parts — washers, shims, lamp bulbs and bases, buttons, etc. — to inspection and counting devices, packaging machines and other automatic processing equipment.

Send us a description of your problem — and sample parts for testing.

We'll be glad to submit recommendations and quote prices.

Write to —

SYNTRON CO.
410 Lexington — Homer City, Pa.

IEN - 1167

## Controlling Quality with Scales

Your goods are as good as skill and precision equipment make them. Good scales correctly fitted to the operation have a big place in controlling quality. Parts selection, weighing motor laminations, classifying lengths of carbon, sealing gauges are just a few things done with scales. Since operations like these are precision in nature they require highly accurate equipment. Today in America the above operations together with hundreds of like jobs are handled by EXACT WEIGHT Scales in every type of industry, large and small. Although these famous scales have cut costs, improved a host of products and speeded up many operations in the past, there are still many things still to be done. What is your problem? Write us about it.

EXACT WEIGHT SCALE COMPANY


THE EXACT WEIGHT SCALE COMPANY
130 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W. Toronto 18, Canada

IEN - 1170

## LATHE TOOLS . . Tool bit holder includes adjustable work support finger

Source: DASSO TOOL PRODUCTS
Box 13-A, Lincoln Park, Mich.

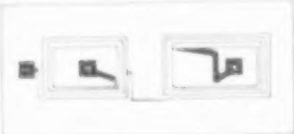
List price ...

The holder ...

IEN - 1171

## ELECTRIC CIRCUITS . . Conductor bonded to base in specified outline

Source: EMELOID CO.
1237-41 Central Ave., Hillside, N. J.



Copper is inlaid ...

IEN - 1172

## TUBE . . Flexible stainless steel to handle acids and corrosive fluids

Source: CARPENTER STEEL CO.
131-35 Springfield Road, Union, N. J.

Carpenter No. ...

IEN - 1174

Easy Marking of Such Items:

ANY surface is easily marked with stamp or brush when "Clear Print" Wood Stamp Pads and Opaque Inks are used. Wherever sharp, clear, fast drying identifying impressions are needed, production engineers find "Clear Print" Inks are tops. Available in variety of colors.

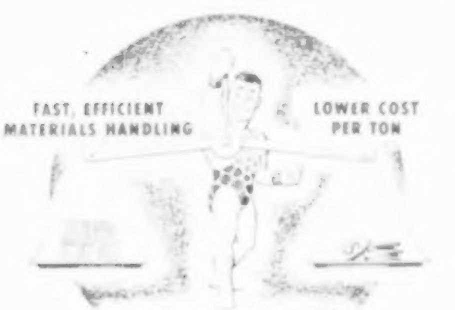
IEN - 1175

"We stopped motor burnouts and saved time and money for a large company . . ."

Fusetron Fuses with their 10 POINT PROTECTION

Stop Wasting Time and Money —

IEN - 1168

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MOBILIFT "The MIGHTY MIDGET"

MOBILIFT CORPORATION
Portland 14, Oregon
Please send me your illustrated folder on Mobilift operation.
Name
Firm
Address
City State

IEN - 1173

SCIENTIFICALLY FILTERS GLARE OF ACETYLENE AND HYDROGEN FLAME and BURNING FLUX

B. F. McDONALD CO.
Makers and Distributors of Industrial Safety Equipment
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IEN-1177

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**PYROMETERS**

*for every purpose*

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New York 17, N. Y.

**CAMBRIDGE**
PIONEER MANUFACTURERS OF
**PRECISION INSTRUMENTS**

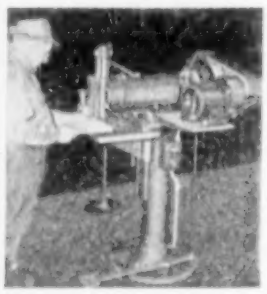
Measure Indicates and Records • Physical Testing Instruments
Surface Pyrometers • Laboratory Instruments for A. C. & D. C. • Instrumentation
Engineering Instruments • Gas Analysis Equipment • Photometers
and many other Mechanical and Electrical Instruments

IEN-1178

# SAVE MONEY 2 WAYS
## with the
## Saranac Corrugated Fastener Driver

**1** On your production wood splicing jobs . . .

**2** By turning wood scrap into usable material



Here's why this Saranac Splicer can save you extra dollars:

It cuts and drives its own fasteners — 4 to 8 corrugations long — from standard low-cost coil wound stock. Drives fasteners from 3/4" to 1 1/2" wide into the hardest woods — to join a hard board to a soft board. Repairs split boards — even anchors loose knots!

Make every piece of lumber count. *Prove to yourself* how SARANAC'S Corrugated Fastener Driver will pay its way in cost plus — write for Bulletin 112 today!

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*Over a Half Century of Leadership*

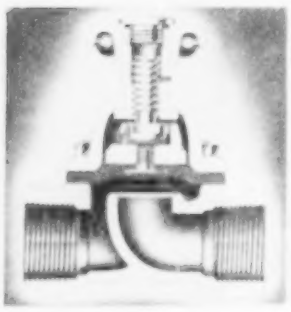
**SARANAC** MACHINE COMPANY
BENTON HARBOR, MICHIGAN

IEN-1179

IEN-1180

**VALVE . . Diaphragm design handles air, chemicals, gas, oil, water**

Source: BEEKMAN INDUSTRIES INC.
420 Lexington Ave., Rm. 857, New York 17, N.Y.



IEN-1181

**WEIGHING . . Conveyor line scale for over or under weight in filled bags**

Source: EXACT WEIGHT SCALE CO.
942-46 W. 5th St., Columbus 12, Ohio

IEN-1182

They DEMANDED — "an equally superb, but smaller, unit."

FOR THE SMALLER JOBS

We AGREED — and HERE IT IS!

ARCO Packaged CONDENSATION RETURN UNIT

Packaged Duplex Condensation Return Unit Equipped with No. 4 Series Aurora Pumps.

Ideally suited for the automatic return to the pressure boilers of hot water condensation from heating, with allowance for return of water and other liquids to the overhead tank of gravity circulating systems in heating. Being UTTERLY SIMPLE, HIGHLY EFFICIENT, REMARKABLY TROUBLE-FREE and LASTING, ARCO PUMPS establish new high standards of performance.

AURORA CENTRIFUGAL PUMPS

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AURORA always PUMPS — AURORA PUMP COMPANY
42 LOUCKS ST., AURORA, ILLINOIS

IEN-1183

*with* **LUNKENHEIMER**
AUTOMATIC BOTTLE OILERS
for safe, economical lubrication

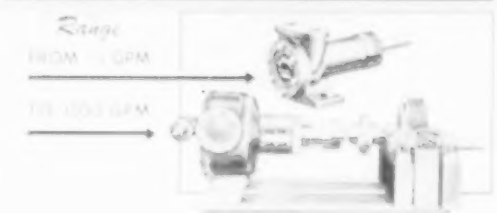
THE LUNKENHEIMER CO.
CINCINNATI 14 OHIO U.S.A.

IEN-1184

# FABREEKA
FOR IMPACT SHOCK, VIBRATION, AND NOISE

IEN-1185

**VIKING *Rotary* PUMPS**




If your problem is to deliver a clean liquid in any capacity from 1/2 to 1050 gpm, check the complete line of Viking rotary pumps. All are self-priming, nonpulsating and capable of delivering against pressures to 100 psi (200 psi in heavy-duty styles—500 psi on hydraulic oils).

The complete capacity range is available in either standard or special construction to meet your requirements.

Pumps are built to handle any liquid ranging in viscosity from L.P. gas to grease. Check your requirements in Bulletin 500F. Send for your free copy today.

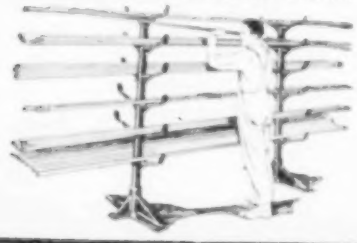
**Viking** PUMP COMPANY
Cedar Falls, Iowa

IEN-1186

**THEY BOOST YOUR PROFITS**

The BROWN TIME-SAVING RACK saves the time previously lost in hauling each row of stock to cutting length from the old stacks. Unlike the Brown Rack requiring but a few inches of side movement. Each length, width and thickness of stock is displayed in position ready for instant selection. Workmen waiting for stock are never without work of their own and contribute to their production quotas. In turn you get a maximum of output. Any time you require different storage space, all you need do is to add more parts. It can be moved, if at any time you feel like it, to any place within the building. It is a simple, flexible system which made of mass production of each item easy, and to meet requirements in production. SEND FOR BULLETIN No. 26-N DESCRIBING THE

• BROWN TIME-SAVING RACK •



**BROWN ENGINEERING CO.**
172 NORTH THIRD STREET READING, PENNA.

IEN-1187

**you'll TAG more profits with this precision rolled strip**

CMP Thinsteel is a genuine strip product with all the characteristics of superior accuracy to gauge, surface finish and edge which distinguish it from other types of cold rolled products.

You can sometimes buy cold rolled sheets slit to strip steel widths at a lower per-pound price than CMP Thinsteel—BUT, if you will total the steel weight slit actually use for any given number of units thus produced, determine the time required to produce them, including down time for jammed dies and die changes, and check the total number of usable parts which result, after allowing for rejects, you believe a comparable check on an equal weight of CMP Thinsteel will show you worthwhile savings. We shall be glad to arrange for a comparative test to be run at your convenience.

**CMP**
THINSTEEL
LOW CARBON
SPRING STEEL
ALLOY SPRING
STAINLESS

PRECISION COLD ROLLED
CMP
STRIP STEEL

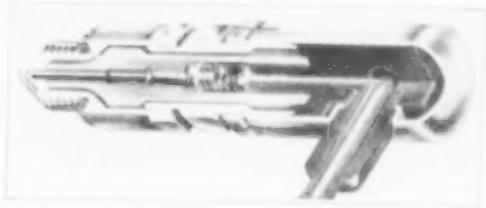
**the Cold Metal Products co.**
YOUNGSTOWN 1, OHIO

NEW YORK • CHICAGO • DETROIT • INDIANAPOLIS
LOS ANGELES • ST. LOUIS

IEN-1189

**SPARK PLUG . . Shielded design available in standard thread sizes**

Source: LEONARD SPARK PLUG CO.
146-50 Summit St., Newark 4, N. J.



Atomic Heads

The porcelain insulator

IEN-1190

**PAINTING . . Gray and white enamels for light fixture housings, reflectors**

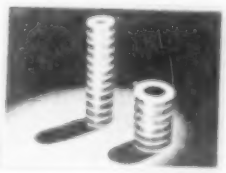
Source: MONSANTO CHEMICAL CO.
1948 Chemical Lane, Boston 49, Mass.

Technical data on request

IEN-1191

**SEALING . . Teflon, mica, graphite in rings for pump shaft stuffing boxes**

Source: UNITED STATES GASKET CO.
610 N. 10th St., Camden, N. J.



Chemical

All Makers of These and 50 Other Products Are Found in THOMAS' REGISTER — Descriptions — Ratings — See Page 50

IEN-1192

**PAGE FENCE** *Since 1883*

• AMERICA'S FIRST WIRE FENCE •

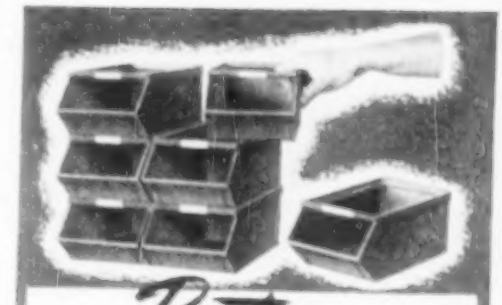
**Tailored to Your Needs**

● Whether you have maintenance or operating problems, we know a lot, information bought but's helpful for you. It will give you valuable information on key and solid protection of property and persons by means of fence that's now tailored to your requirements. The Page Chain Link Fence can be of the white, bright and metal that's best for you, no matter what the conditions. And it will be erected by experienced, local experts who offer more than a product—a complete fence service. Write for DH-142. With it we will send name and address of nearest Page Fence specialist.

*Write to* PAGE FENCE ASSOCIATION
in Minneapolis, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, Pittsburgh, New York or San Francisco.

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

IEN-1193



*Parts . . .*

★ Where You Want Them . . .
★ When You Want Them

Write Stackbin Corp., 1077 Main St., Pawtucket, R. I.

**STACKBIN SYSTEM**
"Stacked and Still Accessible"

IEN-1194

**MORE WELDS -LESS TIME**

**with Worthington-Ransome Positioners**

Your welder gets more arc time out of each working hour when the work is positioned for economical "downhand" welding. He can use heavier electrodes, too, for better welds.

Capacities from 100 lb to 20 tons. Also Turning Rolls from 3 to 75 tons, stationary and self propelled.

Write for Bulletin 410C Worthington Pump and Machinery Corporation, Welding and Assembly Positioning Equipment Division, Dunellen, N. J.

**WORTHINGTON**

WORTHINGTON-RANSOME
WELDING POSITIONER

IEN-1195

*NOW! Hydraulic TUBING Immediately AVAILABLE FROM FRASSE WAREHOUSE STOCK!*

**FRASSE** *for Steel Tubing*

Carbon Mechanical Tubing • Aircraft, Condenser and Pressure Tubes • Hydraulic Tubing Stainless Tubing and Pipe, Valves and Fittings

REFIT—Identify by IEN-1196 if you write the maker

SAVE MONEY SAVE TIME with

JOHNSON GP BEARINGS

FROM OVER 850 stock sizes you can select one out of ten of your bearing needs — either for product or for maintenance. Johnson General Purpose Bearings and Bushings are available from distributors and warehouse stocks from coast to coast. Large production runs assure low unit cost — no pattern costs — no special machine setups. The Johnson Bronze Catalog lists all sizes available. Write today for your copy.

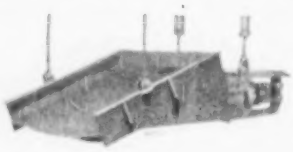
Johnson Bronze

SLEEVE BEARING HEADQUARTERS

476 SOUTH MILL STREET • NEW CASTLE, PA.

REFIT—Identify by IEN-1197 if you write the maker

## Positive Control Over Tonnage Handled



Electric Vibrating FEEDERS — small sizes and large sizes — for feeding from a few ounces up to many tons per hour. Flat or tubular types with hundreds of applications in processing various kinds of material. Also electric vibrating coolers, dryers, conveyors, packers, screens as well as Bin Check Valves and BIN-EYE controls. Send for data.

Here you see the Jeffrey-Traylor WAYTROL (Constant Weight Feeder)—a precision machine for accurate weighing, batching, feeding and proportioning. It has an "electric brain". Find out about it.

JEFFREY

THE JEFFREY MANUFACTURING CO.
914 N. Fourth Street, Columbus 16, Ohio

REFIT—Identify by IEN-1198 if you write the maker

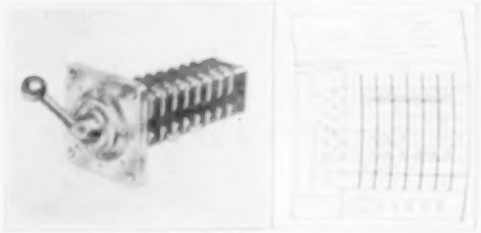
Things to think about when selecting Unit Heaters

MODINE UNIT HEATERS

REFIT—Identify by IEN-1199 if you write the maker

## SWITCH . . Multiple section assembly replaces pushbuttons in machine control

Source: ARROW-HART & HEGEMAN ELECTRIC CO.
101-5 Hawthorn St., Hartford 6, Conn.



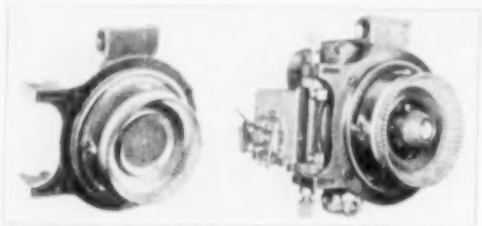
**Push Pull Selector** is a new multiple-section momentary-contact switch assembly in which desired sections are selected for operation by turning a central handle. Pulling the handle out will then make actual contact to energize starter units in the power circuits in the controlled machine. Pushing the handle in will open the starter circuits. The sections have two independent circuits each and are rated at 30 or 60 amperes. Up to 16 selector positions can be specified.

**Each switch** assembly is custom made to meet given control and operating requirements in two or three-wire control. The diagram in the illustration shows the control layout for a New Departure ball-race grinding machine. In this particular case two of the switch assemblies and three companion Type-RA magnetic starters provide control that would have required ten pushbuttons and seven starters.

REFIT—Identify by IEN-1200 if you write the maker

## HEATING . . Gas and oil burner burns oil for short gasless periods

Source: IRON FIREMAN MFG. CO.
3168-72 W. 106th St., Cleveland 11, Ohio



**Type RAG** is a new combination gas and oil burner for normal operation on gas with the central motor-driven oil equipment swung back and an air intake plate centrally mounted, the latter shown to the left in the illustration. The gas issues from the ring of stainless-steel stud ports and air is induced through the center. The oil burner is swung into position in place of the central plate, as shown to the right, for short periods during which gas is not available. If oil is to be burned for extended periods the gas burner should be removed and a protecting ring put in its place.

**Six sizes** in the line have nominal ratings of 4,500 to 18,750 cfh. Oil rating is nominal at 30 to 125 gph. Required gas pressure is 5 to 10 lb. per square inch. Bulletin, "Bri-Serve Industrial Gas Burners," 4 pages, provides descriptions and illustrations with capacity and dimension tabulations.

All Makers of These and All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 10

REFIT—Identify by IEN-1201 if you write the maker

## • SURPLUS YES but GOOD

High Quality merchandise only — our selling prices average 40% of Government Cost in '45. Industrial and Marine items, new — unused — most items in original containers.

*In stock for immediate shipment*
(Subject to prior sale)

[illegible]

Remember—we sell no "junk"—our low prices are no index to the quality of our merchandise—but are based on low acquisition costs to us.

Write or wire

MIDLAND EQUIPMENT COMPANY
Box 552, Tacoma, Washington

REFIT—Identify by IEN-1202 if you write the maker

Designed for

## LIVE ACTION

The light, uniform, positive spring loading of Model 33 KLOZURE* Oil Seal, combined with the tough, resilient sealing element, result in "live action" sensitivity and long life. Recommended for high or low shaft speeds and for shafts having considerable "whip" or lateral movement.

Model 33 KLOZURE is produced in a range of sizes for 1" to 10" shafts. Model 43 KLOZURES, employing the same engineering principles but differing in details of design, are made in a range of sizes from ½" to and including 3" shafts. Write for KLOZURE catalog.

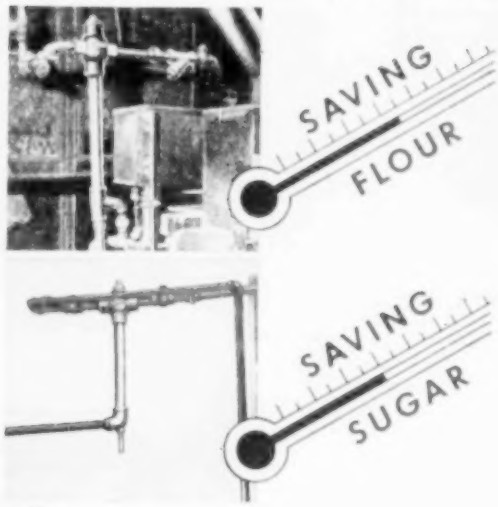
*Reg. U. S. Pat. Off.

THE GARLOCK PACKING COMPANY
Palmyra, New York

In Canada: The Garlock Packing Company of Canada Ltd., Montreal, Que.

Garlock KLOZURE

REFIT—Identify by IEN-1203 if you write the maker




## *Because* THERE'S ONLY ONE RIGHT TEMPERATURE FOR EACH JOB

THE SARCO WATER BLENDER

When food materials come to the mixing and final processes, temperatures are critical — often to within a degree. But critical or not, these food processors found they could save sugar and flour by having the water exactly right at the last step — with a Sarco Water Blender.

In making syrup it's important to dissolve all the sugar for a better product — and lower cost. In macaroni it's the art of getting the dough just right to go through the machines — without shut downs, rejected batches and wasted flour.

The Sarco Water Blender is a three-way mixing valve operated by the famous Sarco bellows, goes into the line as easy as a T — and as quickly. It is not affected by normal changes in water temperatures or pressures. It costs little — very little considering what it does.

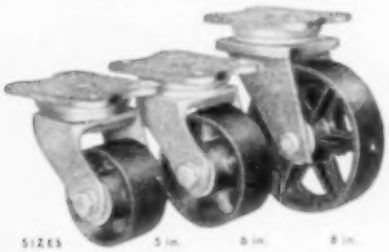
ASK FOR BULLETIN NOS. 700 AND 600

SARCO SAVES STEAM

SARCO COMPANY, INC.
Represented in Principal Cities
Empire State Building, New York 1, N.Y.
SARCO CANADA, LTD., TORONTO 5, ONTARIO

IMPROVES PRODUCT QUALITY AND OUTPUT

REFIT—Identify by IEN-1205 if you write the maker




# SPECIAL CASTERS

*for handling heavy loads in rough service*

Write for special bulletin 11A on Bassick Series 11A Heavy-Duty Swivel Casters—the easiest thing to understand even built on a caster. Also ask for complete Bassick Catalog.

THE BASSICK COMPANY, Bridgeport 2, Conn., DIVISION OF STEWART-WARNER CORPORATION. In Canada: BASSICK DIVISION, Stewart-Warner-Alemite Corporation, Ltd., Belleville, Ontario.

**Bassick** MAKING MORE KINDS OF CASTERS . . . MAKING CASTERS DO MORE

REFIT—Identify by IEN-1206 if you write the maker

**WHY FIGHT frozen Studs, Nuts or Bolts?**

"JOHN CRANE" PLASTIC LEAD SEAL®

**stops leaks.... prevents thread seizure**

Why use red or white lead pipe dope on your threads when Underwriters' Approved non-hardening Plastic Lead Seal will do the job so much better?

It costs no more to use the best. The original application is no more expensive . . . yet it means that you can forget leakage worries. That you will never be faced with breaking a frozen connection, stud, bolt, or nut!

*Make your first Plastic Lead Seal application now. Write us—we'll send a free sample.*

JOHN CRANE **CRANE PACKING COMPANY** 1615 CUYLER AVENUE • CHICAGO 13, ILL.

REFIT—Identify by IEN-1207 if you write the maker

*Streamline* your hand labeling with new

vibra BURG spray

**Mystik**

Self-Stik **Labels**

FAST!

EASY!

PERMANENT!

BEAUTIFUL!

For free samples write:

CHICAGO SHOW PRINTING CO., 2644 N. Kildare, Chicago 39

REFIT—Identify by IEN-1208 if you write the maker

## RHEOSTAT . . For field control on motors, generators, exciters

Source: GENERAL ELECTRIC CO. Dept. 6X-201, Schenectady 5, N. Y.

Resistor plates in this new Series CR9400 rheostat consist of a molded compound base supporting the resistor elements which are welded to the contacts. This assembly is mounted in a metal enclosure filled with a heat-conducting cement. The resistance material is an alloy with negligible temperature coefficient suited for constant duty. Contact segments and brushes are a special alloy for mechanical strength. The brushes are replaceable.

**Three forms** include the 6-in. assembly with 27 resistance divisions, the 9-in. unit with 52 divisions and the 12-in. unit with 70 divisions. Each is equipped with adjustable stops to limit the rotating movement. Handwheel operating mechanisms and sequence drives permit rotation of a single hand-wheel through approximately two revolutions to operate two plates, one at a time. A motor-operated design is included with the manual assemblies. Depth on the 6-in. unit ranges from 8⅝ to 15 in. for 1 to 4 plates.

REFIT—Identify by IEN-1209 if you write the maker

## BENDING . . Pneumatic machine for material to 3/16 by 1½ inches

Source: J. A. RICHARDS CO. 907 N. Pitcher St., Kalamazoo 60F, Mich.

**Model HDAM** is a new air operated assembly of the company's toggle-type bending machine to make shapes from straight pieces of aluminum, brass, bronze, steel to maximum section dimensions of 3/16 by 1½ inches. The machine is mounted on a cabinet enclosing a pneumatic cylinder that takes the place of the hand-operated lever in previous designs and applies a bending pressure of 7 to 10 ton on the work.

**On the machine table** is a stationary post to back up one side of the bending-die assembly. Facing it is a second post that is movable by means of the toggle mechanism for the bending action. Next to it is a second stationary post that provides an anchor point to a pin on the first stationary post to reinforce it when bending pressure is applied. Also connected to the toggle mechanism is a movable shear blade. It works in connection with a stationary blade at the right-hand side of the machine to cut stock that is to be bent.

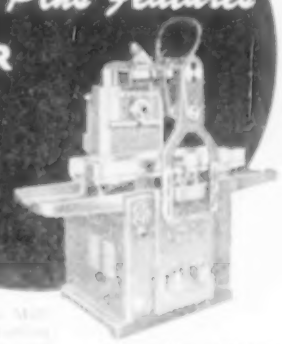
**Bulletin**, 4 pages, "Multiform Bender-Cutter", presents diagrams showing action of the machine, includes 11 illustrations and descriptions of the assembly and of the wide range of forming dies for use on the stationary and moving posts.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56*

REFIT—Identify by IEN-1210 if you write the maker

**KENT-OWENS** *Plus Features*

**CUT YOUR MILLING COSTS!**



**KENT-OWENS**

*Milling Machines*

REFIT—Identify by IEN-1211 if you write the maker

*Effortless* **AIR CONTROL VALVES!**

**Hand Operated**

TYPE NH—A new hand operated, four-way valve, designed for general use, complete with mounting base, for single or double acting cylinders. Sizes ¼", ⅜", ½" and ¾".

**Foot Operated**

TYPE NF—A new foot operated four-way valve, designed for general use, complete with mounting base, for single or double acting cylinders. Sizes ¼", ⅜", ½" and ¾".

HERE is the newest thing in air valves for operating single or double acting air cylinders! Built for hand or foot operation, these instant-acting valves provide fast, effortless control comparable to an electric valve . . at minimum cost.

**DISC TYPE; SELF-LAPPING**—Metal to metal seat. Air-tight. Parkless.

**PILOT CONTROLLED; PISTON OPERATED**—Only light touch required; air does the work—shifts the main valve.

**PRECISION ENGINEERED**—Simple, compact, self-contained, rugged! Try one today. *Ask for bulletins.*

**HANNIFIN** *Corporation*

1107 S. Kilbourn Ave. • Chicago 24, Illinois

REFIT—Identify by IEN-1212 if you write the maker

**TRY IT FREE!**

TODAY'S BIG BUY IN CLEANERS

the *All-Purpose* **IDEAL** "tank type" cleaner

For general vacuum cleaning—water pick-up—scrap collection

Sold through America's leading Distributors

**MAIL COUPON TODAY FOR FREE DEMONSTRATION IN YOUR OWN PLANT**

IDEAL INDUSTRIES, Inc. 1108 Park Ave., Sycamore, Ill.

Please send complete information on ideal tank type cleaners.

Name

Address

City

State

REFIT—Identify by IEN-1213 if you write the maker

**Explosion-Proof and Dust-Tight PYLETS**

● Hazardous location wiring is handled easily and safely with this line of explosion-proof and dust-tight Pylets. Substantial construction with heavy cast metal galvanized bodies, overlapping screw covers and mono-type conduit hubs provides the protection required for the class of wiring. Junction Pylets are available in a full range of types and sizes with up to 6 conduit hubs. Type VS Sealing Pylets have removable covers which can be mounted in any one of four positions for pouring sealing cements. Consult your Pylet catalog 1100 with complete listings of all types.

VS Sealing Pylet

**THE PYLE-NATIONAL COMPANY**

1348 North Kostner Avenue • Chicago 51, Illinois

IEN 1214

# modern design for modern sanitation

LP-20
Available in Black or White

OPEN FRONT AND BACK DESIGN . . . means quicker, easier cleaning. Cuts upkeep to a minimum. No germ-collecting crevices, always sanitary.

SELF-RAISING . . . Seat remains upright when not in use with bowl serving as urinal. Seat stays clean and dry.

SOLID PLASTIC . . . Shatter-proof, fire-proof. Plastic covered hinge is dirt free, moisture proof. Assures long life, low maintenance.

WRITE NOW for full details on Model LP-20 (plus) Model LP-40 with self-raising hinge, and a complete line of conventional models. DEPT. 16

**SPERZEL**
123 14th Avenue South
Minneapolis, Minnesota

All Sperzel Seats Fit Standard Bowls

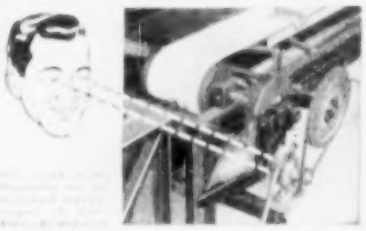
IEN 1215

**PROBLEM:** Drive a conveyor belt carrying fragile material so that belt speed drops when drag of load increases.

**SOLUTION:** A Gast Air Motor maintains constant tension on material in process despite varying drag of load and belt speed.

**RESULT:** This variable-speed drive reduces material spoilage . . . saves money.

## UNUSUAL CONVEYOR-BELT PROBLEM solved with a variable-speed GAST AIR MOTOR



WRITE TODAY

AIR MOTORS CAN'T BURN OUT

CAN'T SPARK EXPLOSIONS

GIVE VARIABLE R.P.M.

GAST MANUFACTURING CORP. • BENTON HARBOR, MICH.

AIR MOTORS • COMPRESSORS • VACUUM PUMPS

IEN 1217

## TRUCK . . . Grading fork attachment to load, carry and dump bulk materials

Source: CLARK EQUIPMENT CO
Battle Creek 49, Mich.

Removable tines . . .

The fork locks . . .

IEN 1218

## WRENCH . . . Crank type tool for 3/8 in. socket drive, has ratchet

Source: HERBRAND DIV.
1009-11 Stone St., Fremont, Ohio

Speedratchet . . .

IEN 1219

## METER . . . Electric instrument to read voltage, resistance, current

Source: TRIPLETT ELECTRICAL INSTRUMENT CO.
11-15 Harmon Drive, Bluffton, Ohio

Model 630 . . .

Resistors . . .

IEN 1221

No two jobs are exactly alike . . . that's why Union Special Builds a wide variety of bag closing equipment. It's also the reason why Union Special field representatives make a careful study of requirements before giving you detailed recommendations on the kind of equipment to install. It's Union Special . . . it's right for the job! UNION SPECIAL MACHINE COMPANY, 400 North Franklin Street, Chicago 10, Illinois.

**Union Special**
*Bag Closing Machines*

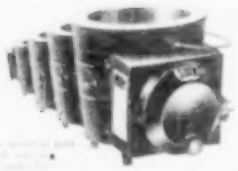
IEN 1222

## HOW TO HEAT COMPOUNDS FOR PRODUCTION USE

It's simple if you know how, to know how.

1. Heat compound evenly fast or not uniformly.
2. Distribute heat into entire cylinder and bottom areas of tank. Don't concentrate the heat. (This may burn compound.)
3. Maintain compound consistent temperature with controls that suited to your particular application.
4. Build in operating convenience and efficiency features as required to speed production at lowest possible cost.

This is summary of quality that Sta-Warm Electric Co. will do for you. Many standard models of Sta-Warm tanks, kettles and pots . . . in capacities ranged from ½ qt. to 100 gals. with popular accessories such as agitators, outlet valves, control, thermostats . . . are available from stock. Or Sta-Warm can build special heaters for special applications. Tell us your problem and we will give you an answer.

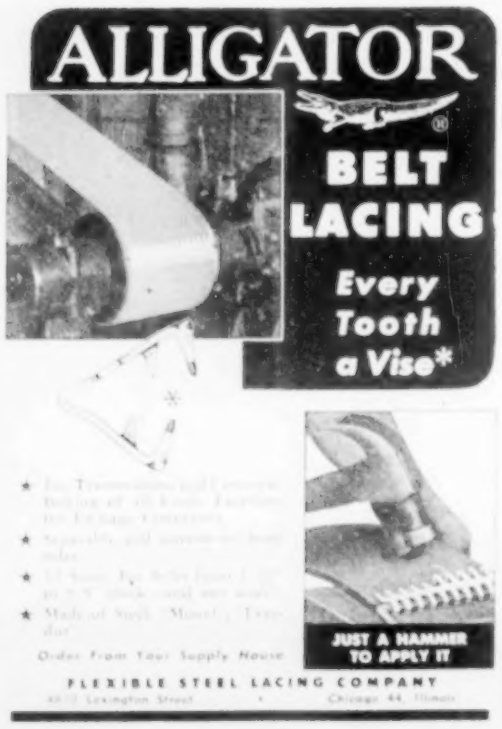


Why not inquire today on your heating problem? Write, wire or phone Sta-Warm Electric Co. Ask for Bulletin 1000 . . . it's a "must" for every production man.

**Sta-Warm ELECTRIC CO.**
560 N. CHESTNUT ST. • RAVENNA, OHIO

IEN 1216

IEN 1220




IEN 1223

IEN-1224

This helpful TURBULAIRE Chart may be the key to

***YOUR SPRAY DRYER PROBLEM***

Send for your copy today!

WESTERN Precipitation CORPORATION

IEN-1225

For greater safety under foot, in your plant and on your products—

# Inland 4-Way Safety Plate

Safe Footing

Easy Cleaning

Firesafe

Adds Strength

INLAND

INLAND STEEL COMPANY Dept. IEN-25

New Bulletin with New Ideas. Just Out! Bulletin 51. Complete engineering and application data. Send for it!

IEN-1227

PRESS TOOLS . . . Reinforced punch for thick work in relation to diameter

Source: PIVOT PUNCH & DIE CORP.
171-5 Old Niagara Falls Blvd., North Tonawanda, N. Y.



IEN-1228

COUNTING . . . Lever operated unit indicates, also prints on a record card

Source: DURANT MFG. CO.
1930 N. Buffum St., Milwaukee 1, Wis.

IEN-1229

*Process Timing*

The Servis Recorder
*The "Time Clock" for Machinery*

IEN-1230

Mercury "YAK" FORK TRUCK

TRACTORS — TRAILERS — LIFT TRUCKS

IEN-1231

SPRACO NOZZLES

Write for NOZZLE CATALOG to
SPRAY ENGINEERING CO.
110 CENTRAL STREET • SOMERVILLE 46, MASS.

IEN-1232

FAST ON-THE-SPOT REPAIRS
*With This Portable Welder!*

*It's* WISCONSIN *Powered!*

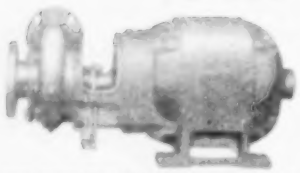
WISCONSIN MOTOR CORPORATION
World's Largest Builders of Heavy-Duty Air-Cooled Engines
MILWAUKEE 14, WISCONSIN

REPRINT—Identify by IEN-1233 if you write the maker

**FOR A LOT OF PUMP**

**IN A SMALL PACKAGE**

## GOULD'S "Close-Cupld"



This efficient, advanced design pump gives the operating man many advantages that eliminate liquid transfer problems.

The pump and motor are a compact unit. The single shaft maintains perfect alignment and the unit is vibration free. You don't need a helipiot.

All you do is set the "Close-Cupld" in place, connect it up and turn on the current.

**Sizes and Capacities**

We make the "Close-Cupld" in 17 sizes with capacities up to 1000 G.P.M. heads up to 400 ft. depending on capacities.

Send for a free copy of Bulletin 701.1 today. It gives you complete data on Goulds "Close-Cupld" pumps.

**Goulds PUMPS INC.** Seneca Falls New York

REPRINT—Identify by IEN-1234 if you write the maker

## Standard SPIRAL CHUTES

...MOVE MERCHANDISE FROM UPPER TO LOWER FLOORS – FAST – AT LOW COST

Scientifically designed, properly pitched Standard Spiral Chutes are effective time, work and money savers. Engineered in a wide range of types and sizes. Cost nothing to operate. Get complete information—send for Bulletin No. IEN-20.

STANDARD CONVEYOR COMPANY
General Offices—
North St. Paul, Minn.

**Standard** Gravity & Power CONVEYORS

## NEW LITERATURE

Brief notices to inform you of available new information issued by the manufacturers covering products they offer. For your convenience, one of the material, whenever it contains as you may judge it to be of use to you.

**ALUMINUM** — For process wire, properties, fabricated supplies, data. "Aluminum in the Process Industries," 8 pages. Aluminum Co. of America, 2001-B Gulf Bldg., Pittsburgh 30, Pa. — IEN-0115

**ALUMINUM** — Properties, plant on the aluminum alloys, forms available. "Aluminum Alloys," 4 pages. Revere Copper & Brass Inc., 230 Park Ave., Room 2020, New York 17, N. Y. — IEN-0117

**BEARINGS** — Sheet type for use further, sheet-metal, "Luballoy," or steel-backed "Trimet." Specifications. Folder, 4 pages. Johnson Bronze Co., 501-S S. Mill St., New Castle, Pa. — IEN-0118

**BLOWERS** — Type SA rotary positive gear for gas handling, construction, ratings. Bulletin 31-S-17, 8 pages. Roots-Connersville Blower Corp., 6-10 Water St., Connersville, Ind. — IEN-0119

**BOILERS** — Tubular, horizontal combustion units, assembly details, ratings to 8,500 sq. ft. steam. Bulletin 5F-1, 8 pages. Brownell Co., 434 N. Findlay St., Dayton 1, Ohio. — IEN-0120

**BORING** — Vertical boring and turning machines, 30 to 42 in., Centre R-1, 32 to 72 in., Catalog A-2, 28 pages each. American Steel Foundries, 1150 Tennessee, Cincinnati 29, Ohio. — IEN-0121

**BRASS** — Continuous cast sheet and strip brass, properties and characteristics. Booklet, "Continuous Cast Brass," 4 pages. Scovill Mfg. Co., 181 Mill St., Waterbury 8, Conn. — IEN-0122

**BRONZE** — Properties on 20 types, data on bars, rabbit, bearings, bushings and copper castings. Catalog, 28 pages. National Bearings Div., 6650 Manchester Ave., St. Louis 10, Mo. — IEN-0123

**CABLE** — "Spring-a-line" portable electric lighting and tool drop, types, accessories. Pr. 2010, 21, 200, 12 pages. Minor Equipment Div., 4300-21 Carling Ave., St. Louis 10, Mo. — IEN-0124

**CABLE** — Portable electric cable, 600 to 1000 volts, construction, rating whole "Simplex Type." 28 pages. Simplex Wire & Cable Co., 79 Sidney St., Cambridge 39, Mass. — IEN-0125

**CASTINGS** — In steel for machinery and heavy equipment. Technical statistics. 40 Condensations. 32 pages. Continental Foundry & Machine, S.E. Ave. & 116th, East Chicago, Ind. — IEN-0126

**CASTINGS** — In carbon and alloy steels, properties and specifications in 74 alternate motors. "Steel Castings," 16 pages. Dodge Steel Co., 4600 Tacony, Philadelphia 35, Pa. — IEN-0127

**CHAIN** — For automatic fluxing service. Features, notes on what happens when a fluxing chain wears. Bulletin H-5, 12 pages. Chain Belt Co., 1600 W. Bruce St., Milwaukee 4, Wis. — IEN-0128

**CHAIN** — Roller steel chain drives, selection tables, installation, maintenance suggestions. Catalog SCS-10, 32 pages. Whitney Chain & Mfg. Co., 2000 Hamilton, Hamilton 2, Ohio. — IEN-0129

**CHEMICALS** — Liquid sulphur, formula, physical properties, [illegible] uses, storage, shipping. Folder, 4 pages. Stauffer Chemical Co., [illegible] Madison, Madison, Wis. — IEN-0130

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 16*

REPRINT—Identify by IEN-1237 if you write the maker

A PARADE OF ADVANTAGES
Westinghouse Air Brake Co.
"Y" COMPRESSORS

All modern features . . . PLUS these vital Points of Protection

7.4 to 41.5 CFM displacements . . . 1½ to 10 HP. Ask for Bulletin IDC 9302-3.

**Westinghouse Air Brake Co.**

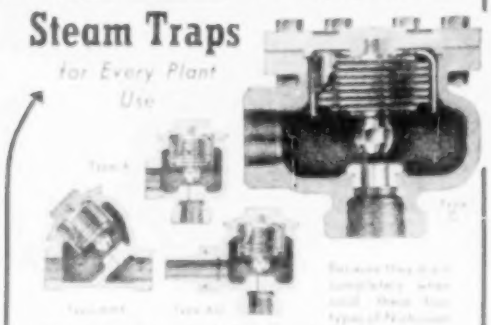
DISTRIBUTORS THROUGHOUT THE UNITED STATES
CONSULT YOUR LOCAL DIRECTORY

REPRINT—Identify by IEN-1238 if you write the maker

NICHOLSON MAKES

## FREEZE-PROOF Steam Traps

for Every Plant Use



BULLETIN 1041

**W. H. NICHOLSON & CO.**

REPRINT—Identify by IEN-1239 if you write the maker

## Special CUTTING TOOLS with GUARANTEED PERFORMANCE

H.S.S. or CARBIDE TIPPED

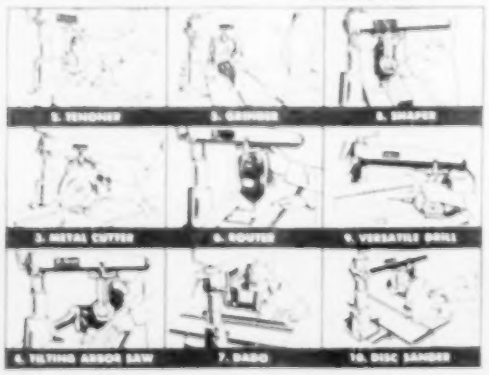
DETROIT REAMER & TOOL CO.
Mfrs. of Special High Speed Cutting Tools
2830 East 7 Mile Rd., Detroit 34, Michigan

REPRINT—Identify by IEN-1236 if you write the maker

## 10 POWER MACHINES IN ONE!

1. RADIAL ARM SAW

**DE WALT INC.**
102 Fountain Avenue
Lancaster, Penna.




REPRINT—Identify by IEN-1239 if you write the maker

**MARKAL COMPANY**
"Originators of Paint Sticks"
3075 W. CARROLL AVE. • CHICAGO 12, ILL.

▼ REPRINT—Identify by IEN-1240 if you write the maker ▼

# JONES TACHOMETERS

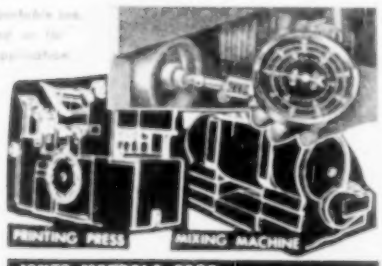
provide a reliable and accurate means for indicating instantaneously on a dial, either constant speed or any fluctuation or changes.

## *Speed* OF OPERATING EQUIPMENT

Are your machines running too slowly . . . or are they exceeding safe speed? With the use of a JONES TACHOMETER the operator can instantaneously and accurately check operating speeds and production. It enables him to maintain greatest efficiency by neither overspeeding which causes breakage or spoilage of materials nor underspeeding with the resultant waste of time and increased overhead. Too, guessing is costly. Why not let us prove it?

Available for portable use, as illustrated, or for permanent application.

Typical Applications




16 page Catalog 46-2 yours for the asking.

**JONES MOTROLA CORP. STAMFORD, CONN.**

▼ REPRINT—Identify by IEN-1241 if you write the maker ▼

# Rugged and Ready

**—for the toughest mass handling jobs!**

Towmotor's exclusive one-piece all steel frame construction gives you an operator shock and extra rigid for rugged service, extra easy to repair and maintain. That's why Towmotor stay on the job dependably . . . year in 24 hour daily service. See why Towmotor handling more among Mass Handling Job equipment. Write for a copy of "Handling More with Mechanical Power" Corporation Division 26, 1226 E. 152nd St., Cleveland, Ohio. Representatives in all Principal Cities U. S. A. and Canada.

*every handling job is easier with TOWMOTOR MH!*

**TOWMOTOR** FORK LIFT TRUCKS and TRACTORS

▼ REPRINT—Identify by IEN-1242 if you write the maker ▼

*New* **POCKET COMPARATOR** saves you time and money inspecting small parts . . .

HERE'S WHAT IT IS

HERE'S WHAT IT DOES

Tool Room and Production Use

General Use

A product of BELL & HOWELL CO.

Write for FREE Descriptive Folder

**NATIONAL TOOL CO.**
11230 Madison Avenue Cleveland 2, Ohio

## *NEW LITERATURE*—*Continued*

*"Checked for owners in past few months"*

**CHEMICALS** — [illegible] IEN-0[illegible]

**CHEMICALS** — [illegible] IEN-0[illegible]

**CHUCKS** — [illegible] IEN-0[illegible]

**CLEANING** — [illegible] IEN-0[illegible]

**CLEANING** — [illegible] IEN-0[illegible]

**COMPRESSORS** — [illegible] IEN-0[illegible]

**CONNECTORS** — [illegible] IEN-0[illegible]

**CONNECTORS** — [illegible] IEN-0[illegible]

**CONNECTORS** — [illegible] IEN-0[illegible]

**CONTAINERS** — [illegible] IEN-0[illegible]

**CONTROLS** — [illegible] IEN-0[illegible]

**CONTROLS** — [illegible] IEN-0[illegible]

**CONTROLS** — [illegible] IEN-0[illegible]

**CONTROLS** — [illegible] IEN-0[illegible]

**CONVEYING** — [illegible] IEN-0[illegible]

**CONVEYING** — [illegible] IEN-0[illegible]

**CORROSION PROOFING** — [illegible] IEN-0[illegible]

**CRANES** — [illegible] IEN-0[illegible]

**CRANES** — [illegible] IEN-0[illegible]

**CUTTING** — [illegible] IEN-0[illegible]

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER — Recommended — Ratings — See Page 18*

▼ REPRINT—Identify by IEN-1243 if you write the maker ▼

# PIPE MARKERS

**anyone can use— everyone can read**

QUIK-LABEL Pipe Markers conform to American Standards Association Pipe Identification System. QUIK-LABELS come on blanks ready . . . stick without moistening. Names of materials printed in large black letters on proper ASA background colors. Can be READ UP TO 75 FEET. Markers for over 140 materials, *including all materials listed in ASA Standard A13.* Available on Rolls, Strip Cards, Specials made to your order. QUIK-LABEL Pipe Markers use Tension Rigid sealed to small size pipes. Lower minimum . . . indoors or out. Replace slow and costly painting and hand stenciling. Exclusive Starter Strip automatically releases part of label for foot peeling. QUIK-LABELS mark your pipes so that anyone who can read will know what's in them. *QUIK-LABELS leave no room for doubt . . . or tragedy.* Write for useful literature and FREE SAMPLES today.

**FREE SAMPLES**

**W. H. BRADY COMPANY** Established 1914
Manufacturers of Self Sticking Tape Products
CHIPPEWA FALLS 8, WISCONSIN • Distributors in 125 Cities

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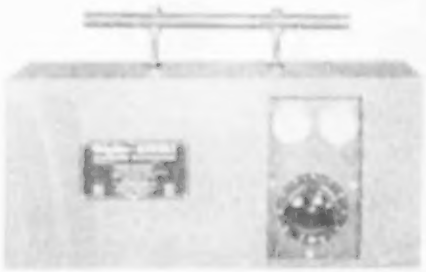

THE NEW PORTABLE UDYLITE-MALLORY RECTOPLATER

*Ideal for Job Work and Many Miscellaneous Small Amperage Jobs*

SPECIFICATIONS

[illegible] Complete in red wrinkle finish case, [illegible] long, [illegible] deep and [illegible] high, ready to handle with rectifier, potential continuous voltage regulator output. Slide for economic ripple. At cord and plug, and DC needle gauge. Shipping Weight, 84 pounds.

**THE Udylite CORPORATION**
DETROIT 11, MICHIGAN

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**MADISON-KIPP** *Die Castings*

The Kipp die casting process offers all first class accessories, combined with strength, permanence, lightness and eye appeal in the production of metal parts.

**MADISON-KIPP** *Lubricators*

Fresh oil by the measured drop, from a Madison-Kipp lubricator, is the most dependable method of lubrication ever developed. It is supplied as original equipment on America's finest machine tools, stock engines and compressors.

**MADISON-KIPP** *Air Grinders*

Kipp Air Grinders give you spectacular off hand grinding. They high, sustained speeds . . . actually grind, not just rub. They get into small places with small wheels. Easy and many tools are.

**MADISON-KIPP CORPORATION**
224 Washington Street
MADISON 10, WIS., U. S. A.

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**Try this BRONZE BAR STOCK . . . for**

*Faster Delivery . . . Lower Cost!*

N.B.M. Type Bronze stocks are conveniently located for prompt delivery . . . at prices that will help cut costs of your plant or product.

ASK FOR THIS FREE BOOKLET . . .

American Brake Shoe Company

**NATIONAL BEARING DIVISION**
[illegible] St. Louis 10, Mo.

IEN-1247

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*Millwright's The Answer to a Maiden's Prayer*

**Carter PRODUCTS COMPANY**
964 Michigan Trust Bldg. Grand Rapids 2, Mich. U.S.A.

IEN-1248

**BOKUM TOOL CO.**
14775 WILDEMERE AVE. · DETROIT 21, MICH.

IEN-1249

Since 1887

**MILWAUKEE WROT WASHERS**

*Better* WASHERS ...Competitively Priced

**WROUGHT WASHER MANUFACTURING CO.**
The World's Largest Producer of Washers

## NEW LITERATURE—Continued

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**PULLMAX DOES IT ALL!**

**PULLMAX**
Sheet and Plate Working Machines

WRITE FOR ILLUSTRATED CATALOG

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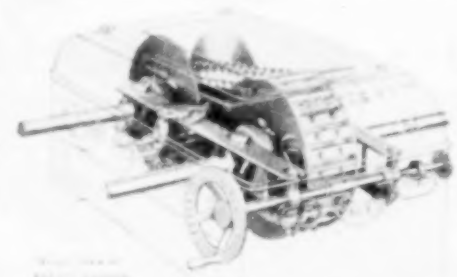
2611 North Western Avenue Chicago 47, Illinois

IEN-1251



**REEVES** *Variable Speed Transmission*

REEVES PULLEY COMPANY · COLUMBUS, INDIANA

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"Oakite's new method for cleaning brass and copper before nickel and chrome plating is tops!"

Wonderful cleaner for brass ... Results have been excellent ... Not a single reject on brass and copper work in two months ... Good cleaning combination ... All parts plate perfectly ... Worth its weight in gold ... No discernible tarnish during anodic cleaning ... Rejects at lowest point ever ... Nickel plate extremely adherent, very bright and lustrous ... Getting excellent results in automatic plating machine ... 15 to 20 seconds reverse did perfect job ... Much brighter plating, much better adhesion ... Could not detect any tarnish

**FREE**

SPECIALIZED INDUSTRIAL CLEANING
**OAKITE**
MATERIALS · METHODS · SERVICE

*Technical Service Representatives in Principal Cities of U. S. & Canada*

IEN-1253

**MERRILL LIFTING CLAMPS**

**THE HEAVIER THE LOAD THE TIGHTER THE GRIP!**

Safer and Speedier Lifting at Less Cost... have made MERRILL-Volz LIFTING CLAMPS the choice of large Steel Mills everywhere.

**SAFER**
- Safety factor of 5 to 1
- Factory tested at double rated capacity

**GREATER SPEED AT LESS COST**
- Entirely Drop Forged and Heat Treated.
- Working parts entirely enclosed.
- Pins do not rotate in frame eliminating wear.

Available in Stainless Steel.

Sold by Better Distributors Everywhere.

**MERRILL BROTHERS**
1114 ARNOLD AVE.
MASPETH, N. Y.

Producers of DROP FORGED SHACKLES, CLEVIS NUTS, TURNBUCKLES & EYE BOLTS.
Write for new CATALOG 51

FINE FORGINGS SINCE 1866

IEN-1254

INSTANT ACCEPTANCE BECAUSE OF

**AO Twin Cartridge RESPIRATORS**

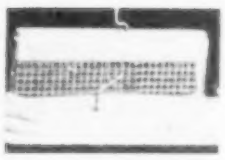
INSTANT CARTRIDGE INTERCHANGING!

American Optical
SAFETY PRODUCTS DIVISION

IEN-1255

**STOP DUST at the source**

with this Pangborn Unit-Type Collector



STOP THE DUST HOG from stealing profits with

**Pangborn**
DUST CONTROL

## NEW LITERATURE—Continued

"Bite-size information for busy readers"

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MAINTENANCE CONTROL . . . Booklet describes simplified low-cost system

Source: REMINGTON RAND INC.—Systems — Photo Records Management Controls Division, 315 Fourth Ave., New York 10.

A new booklet [illegible] The system [illegible]

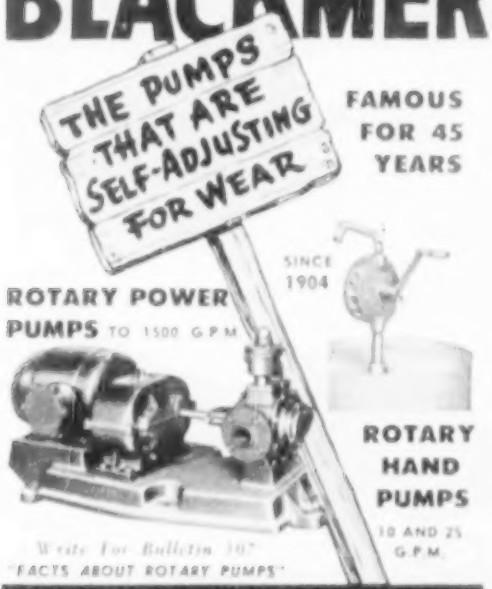
Especially remarkable [illegible]

IEN-1258

H. S. COVER, South Bend, Ind.

IEN-1259

**BLACKMER**




BLACKMER PUMP COMPANY
GRAND RAPIDS, MICHIGAN

IEN-1260

RAWHIDE

CHICAGO Rawhide MFG. CO.
1293 ELSTON AVENUE CHICAGO 22, ILLINOIS

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**Cut Your Costs with...**

GRIGOLEIT MOLDED PLASTICS

**Stock Pulls, Knobs and Pendants**

Modern molded plastics parts by Grigoleit give you a cost-cutting advantage . . . speed production . . . pep up sales!

Write for complete catalog illustrating the many stock pulls, knobs and pendants available for prompt delivery.

THE GRIGOLEIT COMPANY
"Are Exactly Yours in Plastics"
742 E. NORTH ST. DECATUR, ILLINOIS

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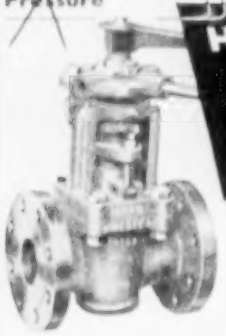
Corrosion
Temperature
Pressure

*Can't faze*

**HOMESTEAD Lever-Seald VALVES**

*They're Stick Proof*



- Instant Stick Proof operation
- Guarantee fully open or closed
- Flexible seal without lubrication
- Service surfaces always protected in both open and closed positions. Corrosion practically eliminated
- Unobstructed straight-line fluid flow
- All operating parts protected from damaging effects of service conditions and weather

Check for your copy of Reference Bulletin No. 1 Pressure Valves

Homestead Valve Manufacturing Co.
"Serving Since 1892"
P. O. BOX 51 CORAOPOLIS, PA.

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STERLING


## NEW LITERATURE—Continued

*"Write direct or use the Reader Service Form"*

**METALS** . . . Unfinished, standard and specialized combined rule, tape, level, etc. Data. Folder. 8 pages. Lufkin Rule Co., 40 Main St., Fort Ed. IEN-0181

**METERS** . . . Ring vacuum flow meter for gases and liquids. Description and explanation of engineering advice. Bulletin M-81. 4 pages. Hoper Corp., 201 N. Pacific St., Pittsburgh 33, Pa. IEN-0182

**MICROSCOPES** . . . Illustrating line of binocular models, 18 to 1,000X, combined lens. "Optical Instruments." 4 pages. E. T. Fowler Co., 136-11 Elmhurst St., Boston 47, Mass. IEN-0183

**MILLING** . . . "Bridgeport" universal and heavy machines. Illustrated specifications. Bulletin M-1001. 16 pages. Bridgeport Milling Machine Co., Building 3, Elm Place, Bridgeport, Conn. IEN-0184

**MIXING** . . . Agitator specification, blade mixers for process use. Illustrated leaflet. "Power Agitators." 4 pages. New England Tank & Tower Co., 40-90 Elmwood, Everett 49, Mass. IEN-0185

**PIPE** . . . Made of carbon and alloy steel. Data, properties, standard sizes. Catalog W-9600. 16 pages. National Carbon Co., 30 E. 42nd St., Room 908, New York 17, N. Y. IEN-0186

**PIPE FITTINGS** . . . Alloy welding fittings, suggestions on alloy selection, stock sizes and thicknesses. Folder TT-2-56. 4 pages. Tube Turns Inc., 222 E. Broadway, Louisville 2, Ky. IEN-0187

**PIPE JOINTS** . . . Full-bearing sleeve joints, metal from 3/8 fixed pipe fittings. Data, specifications. Catalog 30. 16 pages. Grinnell Co., 3302 Pyramid Ave., Emeryville, Calif. IEN-0188

**PLASTIC MOLDING** . . . Model 222 Lockwasher press. 200 ton. Specs. Positions. Illustrated work sheets. Bulletin 507. 8 pages. F. J. Stokes Machine Co., 5556 Tabor Rd., Philadelphia 20, Pa. IEN-0189

**PLASTICS** . . . "Durez 40-42" compression molding material, properties, data, molding temperatures. Form 710. 4 pages. Plastics Div., 2154 Ridge Ave., Evanston, Ill. IEN-0190

**PRESSES** . . . Complete view and description on Terminal punch and trim unit for commercial presses. Bulletin 212. 4 pages. Cincinnati Milling Machine Corp., 4801 W. 20th, Cincinnati 39, O. IEN-0191

**PRESSES** . . . Pneumatic action presses, 8 to 75 ton. Dimensional and performance data on 20 models. Bulletin 250. 4 pages. Denison Corp., 1206 S. Kilbourne Ave., Chicago 24, Ill. IEN-0192

**PRESSES** . . . Mechanical press, 30 ton rating, two models, with attachments, specifications. "Multi-Max." 8 pages. Diamond Machine Tool Co., 5625 E. Olympic, Los Angeles 22, Calif. IEN-0193

**PRINTING** . . . Machine to count, date, imprint tags, tickets, forms at left and right, description. Folder. "Pick-counter." 6 pages. Primer-Rotary Inc., 201 S. Pacific St., Stamford, Conn. IEN-0194

**PRINTING** . . . Automatic operator for standard electric typewriter specifics. "Automatic Letter Writing." 4 pages. Robertson Corp., 19000 W. Ryan Rd., Detroit 31, Mich. IEN-0195

**PROCESSING** . . . Corrosive chemical potentials, physical properties, forms such as pipe, tanks. Folder PP-B. 4 pages. General Ceramics & Stoneware, 16 Cross Mill Rd., Keasbey, N. J. IEN-0196

**PROCESSING** . . . Vibrating, feeding, crushing, converting, separating equipment, specifications, uses. Catalog 800. 32 pages. Jeffrey Mfg. Co., 404 N. 4th St., Columbus 16, Ohio. IEN-0197

**PROCESSING** . . . Special machines in welded steel construction, description on filters, other units. "Machinery." 24 pages. Lukenweld Inc., 400-07 Lukens Bldg., Coatesville, Pa. IEN-0198

**PULVERIZING** . . . "Mikro" pulverizing and dust collecting equipment, description, application data. Catalog. 30 pages. Pulverizing Machinery Co., 160 Chatham Road, Summit, N. J. IEN-0199

**PUMPS** . . . Hand hydraulic pumps and cylinders to 5,000 lb., specifications, uses. Catalog H-1. 8 pages. Commercial Shearing & Stamping Co., 1103-21 Logan Ave., Youngstown 1, Ohio. IEN-0810

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page M*


▼ REPRINT—Identify by IEN-1264 ▼

*Famous for Service and Comfort!*

*An HONOR to make them—*
*A PRIVILEGE to sell them—*
*A PLEASURE to use them—*

*Clarin* STEEL FOLDING CHAIRS

- sturdy and dependable
- broad seat
- comfort supreme
- properly pitched seat and back panel
- easy, noiseless opening and closing
- rubber silencers
- finest enamel finishes
- ten-year guarantee

Folds flat to 1 3/8" thin.

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CLARIN MFG. CO.
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CHICAGO 44, ILL.

There are more Clarin steel folding chairs in institutional service than any other make

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Write now for your free copy of "Know Your Ropes." Contains 82 pages of suggestions on selection, application and care of Wire Rope. Write to the Wire Rope Sales Office, Wickwire Spencer Steel, Pittsfield, Massachusetts.

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PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
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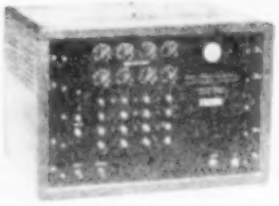
**Where accurate counts* are**

POTTER TIME-TESTED APPLICATIONS INCLUDE—



- PRODUCTION COUNTING
- PACKAGING
- BATCHING
- MACHINE CONTROL
- SEQUENCE CONTROL
- TIMING

MANY OTHERS ARE POSSIBLE—
CHECK ON YOURS, TODAY!

The accuracy and reliability of Potter electronic counters has been proven by years of service in rigorous applications in both light and heavy industry. Counting problems, whether involving machine control, batching, packaging or simple production totals, can be solved best with accurate electronic counting at any speed.

Potter counting rates meet today's production needs without mechanical wear, slippage or inertia and guarantee absolute accuracy. These important Potter features, and many others, have extended the field of count control far beyond the limitations of mechanical counters.

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POTTER COUNTERS CUT COSTS—INCREASE PRODUCTION. INSTALLATION IS SIMPLE AND INEXPENSIVE. ASK A POTTER ENGINEER FOR A RECOMMENDATION—ADDRESS INQUIRIES TO DEPT. [illegible]

POTTER INSTRUMENT COMPANY • INC.
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**SAVE** on OPERATING COSTS and RENT with CARD *Sturdi-Lite* SAFETY LADDERS

EASY to move around; SAFE to work on; handy shelf or basket at top. Amazingly LIGHT WEIGHT but STRONG tubular ALUMINUM construction, including hand rails. Sturdy one-piece steps, non-skid rubber treads. Ball-bearing casters on two rear legs and front Swiveling Caster. Heavy coil spring keeps the two front rubber feet off floor until a person steps on ladder; then they lower and rest securely on floor.

MANY Time Saving USES in factory assembly lines, maintenance work, stock, tool and file rooms, etc.

SAFE SPACE—place things HIGH in files, shelves, bins, lockers, etc. They're easy to get at, with CARD SAFETY LADDERS.

For NARROW AISLES—18" width in 5-step, 4-step and 5-step with shelf or basket top.

For WIDE AISLES—24" width in 4-step, 5-step and 5-step with shelf only at top.

ALSO 2-step Stools and Rollaways. Write

D. R. CARD COMPANY
*National Distributor*
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Rx READABLE RELIABLE RUGGED

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*All-Metal Thermometers*

Rugged, all metal construction . . . stainless steel stems . . . bold, readable dials . . . accuracy within 1% over the entire scale . . . all add up to the answer to industry's toughest temperature measurement requirements. Choose a dependable WESTON thermometer from a variety of types, sizes, lengths and scale ranges. Call your jobber, your WESTON representative, or write for Thermometer Bulletin . . . WESTON Electrical Instrument Corporation, 638 Frelinghuysen Avenue, Newark 5, New Jersey.

CONTACT MAKING models for alarm or control purposes. MAX-MIN models to indicate highest or lowest temperature reached.

**WESTON** *Instruments*


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*"Written for your experienced judgment"*

**FUMES** . . . Type 32 mobile self-cleaning hoods, 300 to 4,200 cuu. ft. capacities. Bulletin 32-100. 4 pages. Dixie Jackson Co., Box 307 A, Temp. annex, Los Angeles 54, Calif. IEN-0811

**FUMES** . . . Industrial Exhaust wash units. Illustrations, specifications, diagrams, prices, details. Circular 50. 4 pages. Binsley Inc., 1220 W. Bridge St., Rising, Ohio. IEN-0812

**FUMES** . . . Type-G vertical centrifugal gauge. Description and self-cleaning operating data. Bulletin 18. 16 pages. Lapham Co., 1100 N. Keeler Ave., Chicago, Ill. IEN-0813

**FUMES** . . . Greenhouse fan units, various fixed hoods, hoods, monitor, wheels, dimensions. Bulletin B-1000. 16 pages. Emerson Fumes Inc., W. Ave. 26 & Hospital, Los Angeles 31, Calif. IEN-0814

**FUMES** . . . Centrifugal gauge for chemical process work, review of models. Bulletin W-50-101. 12 pages. Washington Tower & Mechanical Corp., 420 Washington, Harrison, N. J. IEN-0815

**SEALING** . . . Mechanical shaft seal for pumps, compressors, equipment and valves, vapor compression. "Type F seal." 4 pages. Crane Packing Co., 1800 Cicero Ave., Chicago 51, Ill. IEN-0816

**SEPARATING** . . . Liquid separators and for liquid from liquid combinations. Description. Bulletin 700. 4 pages. Acme Filter, 500 E. Erie Ave., Philadelphia 34, Pa. IEN-0817

**SHEARING** . . . Combination machine to shear, punch, notch, plate, angle, channel, round, square. "Combination Machine." 12 pages. Kling Bros. Eng. Works, 1900 N. Narragansett, Chicago 39, Ill. IEN-0818

**SPRINGS** . . . Extension, compression, torsion types. Illustrated, data-designing, furnishing, stock products. Bulletin 50-A. 4 pages. Hunter Spring Co., 4 Spring Ave., Lansdale, Pa. IEN-0819

**STEELS** . . . Stainless steel in fabricated, annealed, pickled and polished forms. Data "Hospital Grade." 4 pages. Rustless Steel, 1200 E. Rolling Mills Ave., Baltimore 2, Md. IEN-0820

**SWITCHES** . . . Rotary, operated for medium power switching, compressor, remote operation. "Type JH and JHM." 4 pages. S. Cox Electric Mfg. Co., 1100-24 E. 87th, Chicago 19, Ill. IEN-0821

**TESTING** . . . Bulletin 18-1000, water-conditioner test, detection, analysis, and treatment. Bulletin 18-B. 16 pages. Consolidated Engineering Corp., 820 E. N. Lake, Pasadena 4, Calif. IEN-0822

**TESTING** . . . Combustible temperature range tables for minerals, organics, compounds, oil, pitch, binder. 4 pages. Hoover & Jordan Laboratories Inc., 1026 Rue St., Brooklyn 16, Md. IEN-0823

**TESTING** . . . Plastic compounds, PVAM, alcohol free, rubber, CDP compounds, specifications, CDP Hardmandrels. 18 pages. Hewitt-Pickard Inc., 100 47 Paul Mill Rd., Palo Alto, Calif. IEN-0824

**TESTING** . . . LIRA, leak-tight gas and liquid analyzer, automatic electronic operating description. Bulletin 102-A. 8 pages. Blue Sphere Appliances, 31 Frederick Ave., Pittsburgh 8, Pa. IEN-0825

**TESTING** . . . Laboratory apparatus and supplies, review of recent additions to a line. "Where New No. 8." 32 pages. Scientific Glass Apparatus, 47-31 Ashwater, Bloomfield, N. J. IEN-0826

**THERMOMETER WELLS** . . . Drawings of six standard types, price-on-application. "Thermal Thermometer." 4 pages. Gardes Machine & Tool Co., 1900-16 W. Atlantic, Philadelphia 40, Pa. IEN-0827

**THREADING** . . . Portable power unit for pipe threading, reamed-hole size and specific Tables. "Model C." 4 pages. Reeme Pipe Tools Inc., 20-30 Dang Ave., Warren, Ohio. IEN-0828

**THREADING** . . . Lightweight for hand-type TM, operating description, dimensions in five sizes. Bulletin 18. 4 pages. Reeme Machine Screw Corp., 1808 Trumbull, New Haven 8, Conn. IEN-0829

**TRANSFORMERS** . . . Dry-type units to 30 kva, and 30 volts connections, applications, ratings. Bulletin 51-B-0804A. 8 pages. Acme Electric Mfg. Co., 400 S. Dale St., Marlborough 14, Wis. IEN-0830

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▼ REPRINT—Search for IEN-1271 if you write the maker ▼

*All viscous miscible materials, all types of viscosities*

With Empire liquid meters you get exact control over expensive going into each batch. You save time, too—the manual method being much quicker than weighing, dial gauging or waiting for batch tanks to fill. You cut evaporation losses, reduce fire hazards, prevent contamination. You save money! Get full facts now.

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PITTSBURGH EQUITABLE METER DIVISION
ROCKWELL MANUFACTURING CO.
Pittsburgh 8, Pa.



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"SCRUD"
*Fine Grade Metal*
*Dirt, grime, oil and other foreign matter in pipe lines*

Starrett Pipe Line Filters positively remove damaging foreign matter in pipe lines for air, other gases or liquids. Exclusive features mean better performance at lower cost. *Write for complete data mentioning special interests.*

*Model CFH*
*For Air & Other Gases*

DOLLINGER STARRETT

DOLLINGER CORPORATION 7 CENTRE PK. ROCHESTER 3, N. Y.



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FOR YOUR SAFETY

Industrial safety is not automatic. But with Automatic Valves—during the hours of 25 years' successful experience in designing and manufacturing valves—by selecting Cash-Acme valves for important jobs, you will be justifying your both deep sense of responsibility for human life and property in your plant.

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*Automatic Valves*

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**The Answer is often:**

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RODNEY HUNT

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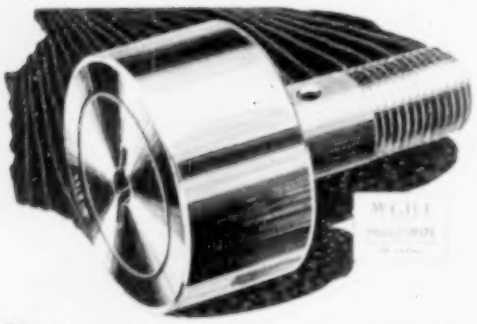


**McGILL** *adds anti-friction to ruggedness*
*in* **CAM FOLLOWER** *design*

IEN 1276

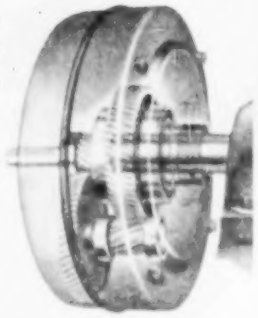
THE *Multiple-Purpose*
FLOOR MAINTENANCE MACHINE THAT'S
*Two Sizes in One!*

Here is a machine that not only can be used to scrub, apply wax, polish, steel wool, scrub rugs and do sand but also affords the further economy of a machine that's two one in one. The 110 volt Geared, as one of the larger ones as shown above at left can be reduced to the small one and shown in circle. Note the low, modern type construction of the machine, and how easily it goes beneath furnishings. Three sizes, 11, 13 and 15 inch brush diameter. For consultation, demonstration or literature, phone or write nearest Finnell branch or Finnell System, Inc., 3000 East St., Elkhart, Ind.

**FINNELL SYSTEM, INC.**
*Pioneers and Specialists on*
FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES
BRANCHES IN ALL PRINCIPAL CITIES

IEN 1277

How You Can Get
SLOW SPEEDS
at LESS COST!



AMERICAN
REDUCTION DRIVES

## NEW LITERATURE—Continued

*"Is your company's new literature included?"*

IEN 1278

**heavy-duty racks**
**...save time and floor space**
**keep stocks in better shape**

**CHAMPION**

**The WESTERN Tool & Mfg. Co., Springfield, Ohio**

IEN 1279

**STONE** *Swing-Cut*
**METAL**
**Cut-Off Machine**

★ *Greater Capacity*
Cuts up to 3" solids and 4" pipe

★ *Faster Cutting*
Cuts any metal in seconds

★ *Flexible*
Cuts any angle from straight to 45° in quick change self-centering vise

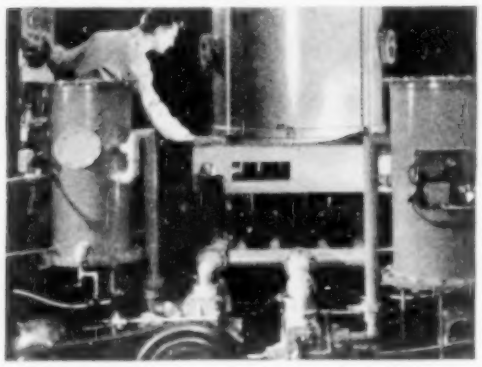
★ *Easier Operation*
less operator fatigue—more operator confidence

★ *Low Price*
Offers you much more cutting capacity per dollar than any other abrasive cut-off machine.

*Write for bulletin and name of your nearest dealer.*

**STONE MACHINERY CO., INC.** 219 Fayette St. Manlius, N. Y.

IEN 1280



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IN PLASTICS COATING

NATIONAL PLASTICS EXPOSITION
Booth 220 Navy Pier
Chicago • March 28-31

VACUUM EQUIPMENT DEPARTMENT
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761 Ridge Road West, Rochester 3, N. Y.
DIVISION OF EASTMAN KODAK COMPANY

IEN-1282

IEN-1283

EVERYTHING FOR EVERY PIPING SYSTEM

CRANE

VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

IEN-1285

HEATING . . Electric element for immersion use in chemicals, oils

Source: EDWIN L. WIEGAND CO.
7500 Thomas Blvd., Pittsburgh 8, Pa.

Rating

IEN-1286

COLORING . . Metal treating material colors iron and steel parts deep black

Source: ATOMITE BLACK CO.
547 Washington Blvd., Chicago 6, Ill.

Bulletin 5149

Blacker 'n Black

For instructions

The coloring

IEN-1287

MARKING . . Felt point pen marks on cellophane, wax, glass, metal

Source: MARSH STENCIL MACHINE CO.
705 N. "B" St., Belleville, Ill.

Free hand

IEN-1288

TEST THEM YOURSELF

PARTIAL CONTENTS

GIVES FULL SPECIFICATIONS

SEND TODAY

LOOK TO FEL-PRO for the LATEST in sealing materials

IEN-1289

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IEN-1291

PROVIDES 4 OUTSTANDING SAVINGS

1. More Prime Surface for More Efficient Heating
2. Develops Quick Heat for Quick Start — 3 to 5 Times as Fast — Faster Than Pipe Coil
3. Takes Half the Space, Weighs Half as Much as Pipe Coil
4. Platecoils Are Easily Cleaned or Replaced in Minutes — No Dismantling — No Tank Dumping

Take advantage of the complete engineering assistance offered by Kold-Hold to help you get your heat transfer problems

Send for complete technical manual and descriptive Bulletin No. P56

PLATECOIL
Division
KOLD-HOLD MFG. CO.
LANSING 4, MICHIGAN

REPRINT—Identify by IEN-1292 if you write the maker

Turn to INGERSOLL when you need—

# Special Steels FOR Special USES

BW

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Alloy Steels • Armor Plate • Clutch Plate Steels
Tillage Steels • Soft Center Steel • Shovel Steels
Knife Steels • Saw Steels, including Hack Saw Blade Steels • TEN-CROSS Steel • Stainless Steels
INGACLAD Stainless-Clad Steel

INGERSOLL STEEL DIVISION
Borg-Warner Corporation, New Castle, Indiana
Plants: New Castle, Indiana; Chicago, Illinois; Kalamazoo, Michigan

REPRINT—Identify by IEN-1293 if you write the maker

# 4 REASONS DARTS DON'T DRIP

**1.** EVERY DART . . . is precision machined to a true ball joint then spherically ground to give wide, true bearing surfaces. Reason why Darts are always leakproof.

**2.** EXTRA WIDE BRONZE SEATS . . . resist pitting, electrolysis and corrosion that drop right.

**3.** EXTRA HEAVY SHOULDERS . . . shrug off wrench abuse through dozens of installations.

**4.** PRACTICALLY INDESTRUCTIBLE . . . body and nut of air-cooled, high test malleable iron resists stress, stretching and wrenching.

E. M. DART MANUFACTURING CO.
PROVIDENCE 3, RHODE ISLAND

REPRINT—Identify by IEN-1294 if you write the maker

# NEW Ladon Bending Machine Bends Wood Easily at Lower Cost

**Amazing Variety of Shapes Produced in Revolutionary Way**

FAST, SIMPLE OPERATION CUTS COSTS

Midwest Manufacturing Co.

38 N. LACLEDE STATION RD.
ST. LOUIS 19, MO.

MANUFACTURERS OF BENDING MACHINES

REPRINT—Identify by IEN-1295 if you write the maker

## WOOD WORKING . . Band saw machine, 8 in. work height, 15¾ in. throat

Source: J. D. WALLACE & CO.
146 S. California Ave., Chicago 12, Ill.

New design of the company's No. 18 bandsaw machine enclosed the blade sweep for its top, between the guide guard and the table top. The design also locates the driving motor on the rear face of the housing and gear converts it for blade speed of 4,000 fpm. Included is provision to rotate the 20 in. work table to a dog on either side of center or a horizontal plane to compensate for blade runout when using a rip fence or miter gage. As to previous design the table tilts between minus 5 deg. and plus 45 deg. in a vertical plane.

Bulletin 18, 4 pages, illustrates the machine, shows band saw—contour—pressure—wood—description.

REPRINT—Identify by IEN-1296 if you write the maker

## WELDING . . Arc electrode overlays without need to remove slag

Source: EUTECTIC WELDING ALLOYS CORP.
38-42 Worth St., New York 13, N. Y.

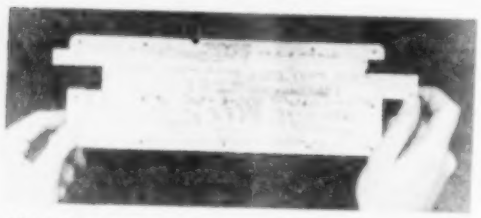
Applies in any position

Steel Teetle is a new ⅛ in. fluorinated electrode in which the flux forms a protective cover over the arc area that prevents slag formation. As a result one weld bead can be laid over another without having to chip slag away first. The electrode can be deposited on flat steel with 90 amperes.

REPRINT—Identify by IEN-1297 if you write the maker

## CALCULATING . . Plastic slide rule for problems of flow in pipe lines

Source: C. J. MAJOR
2250-54 15th St., Wyandotte, Mich.

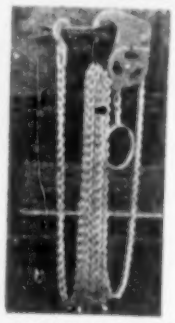


List price is $6 for this new 10¼ by 3¾ in. slide rule for problems involving liquid flow in pipe lines and tubes. Representative calculations include pressure drop, carrying capacity, required pipe size for given flow conditions when the flow is streamline or turbulent. The scale covers a viscosity range from .1 to 10,000 centipoises, specific gravity from .2 to 20, rate of flow from .01 to 10,000 gpm, pipe sizes from ¼ to 24 in. nominal. Operating instructions are included.

*All Makers of These and All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56*

REPRINT—Identify by IEN-1298 if you write the maker

# Opening Box Car Doors GUARANTEED!



NOLAN ONE MAN CAR DOOR OPENER

One man can open the most binding balky box car door with the Nolan Car Door Opener. Get greater safety, speed loading and unloading schedules . . . order an ample supply to fill your needs today.

*No strained muscles. No slips or falls. No broken arms, legs or mashed fingers. No fatalities. No time wasted. No "gangs" needed. No time lost.

Write for descriptive literature

THE NOLAN COMPANY, 114 Pennsylvania St., Bowerston, Ohio

REPRINT—Identify by IEN-1299 if you write the maker

# The STANDARDAIRE Axial Flow BLOWER

Makes RPM = CFM . . . a performance typical of our No. 5 positive displacement blower — suitable for capacities of 800 to 2200 CFM at speeds of 800 to 2200 RPM operating at differential pressures of 2 to 20 p.s.i. The Standardaire No. 5 Blower offers this flexibility of operation plus the desirable characteristics of extremely low noise level and high efficiencies. To insure long service life under continuous operation these features have been built into the modern design Standardaire Blower: accurately generated, screw type rotors . . . shaved helical gears . . . precision, oversize anti-friction bearings . . . oil pump with filter and strainer . . . three point mounting.

For further details write

THE STANDARD STOKER COMPANY, INC.

a product of STANDARD STOKER

Dept. A-24, 370 Lexington Ave., New York 17, N. Y.

REPRINT—Identify by IEN-1300 if you write the maker

# These THERMOSTATS Fit Your Needs and Budget

TYPE K

TYPE W

**Long Range, Short Range, Accurate, Flexible**

The Type K and Type W thermostats allow wide choice in the selection of remote bulb controls for use in oven, incubators, liquid baths, hot water glasses, cold cabinets, food vending machines, etc.

If wide, adjustable ranges and great flexibility are required, the Type K is the best answer. It has incremental adjustment, calibration correction and effective instrument temperature compensation. 5 models calibrated, from −120 F. to 180 F., 50 F. to 380 F. and 50 F. to 600 F. are available.

In applications with narrow ranges and where the cost factor is important, the Type W is suitable. It is available in many narrow ranges between the limits of −120 F. and 600 F. Both controls are remote bulb types employing sensitive solidly liquid-filled bulb, and hydraulically actuated knife bellows thermal assemblies to actuate positive snap action switches. Both can be supplied with special explosion-proof and watertight housings and with bulb assemblies for use in liquids and gases injurious to brass.

Write for complete details today.

UNITED ELECTRIC CONTROLS COMPANY
90 School Street
Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

REPRINT—Identify by IEN-1301 if you write the maker

# HIGH PRODUCTION AT LOW COST

Commercial, Precision, Special Ground Thread Taps

HY-PRO TOOL CO.

A SUBSIDIARY OF CONTINENTAL SCREW COMPANY
NEW BEDFORD, MASS., U. S. A.

REPRINT—Identify by IEN-1302 if you write the maker


**EX-CELL-O *Spindles***

**"STEPPED UP PRODUCTION TREMENDOUSLY!"**

That's what an electrical manufacturer says about a group of Ex-Cell-O Precision Spindles he purchased. These were of the high frequency, inbuilt motor type, pictured above. If you use precision grinding spindles send for the Ex-Cell-O Spindle Catalog today—no obligation of course. For a quotation on special spindles just send a sketch with basic dimensions and state the speed and horsepower required.

XLO

**EX-CELL-O CORPORATION**
**DETROIT 32, MICHIGAN**


REPRINT—Identify by IEN-1303 if you write the maker


**Reduce Finishing Costs with ALUNDUM Abrasive!**

ALUNDUM Polishing Abrasive is available in a wide range of sizes and with special surface treatments to meet the exact requirements of every polishing job. For helpful polishing tips and for full details on cost-cutting ALUNDUM abrasives—see your Norton distributor—or write for a free copy of "Setting up Metal Polishing Wheels and Belts".

ALUNDUM Tumbling Abrasive is an ideal tumbling medium because—it's all abrasive for a continuous cutting action—it's heavy for the fast, positive cut—it's hard and tough for a long productive life. Contact your Norton distributor for full details, or write for "Precision Tumbling with ALUNDUM Abrasives."

NORTON CO. • WORCESTER 6, MASS.

**NORTON ABRASIVES**


REPRINT—Identify by IEN-1305 if you write the maker

## SWITCH . . Distribution panelboard mounts vertical busbars for plug units

Source: FEDERAL ELECTRIC PRODUCTS CO. 48-52 Paris St., Newark 5, N. J.

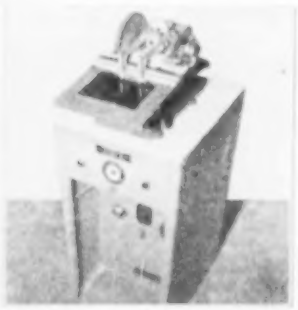
**North Element** is an assembly of panelboard units, housing main and branch circuit breakers, busbars and wiring, for use in a central machine or distribution panelboard, which is set up in a vertical position. Each panelboard unit is equipped with a separate door, for ready access to the circuit breakers. The panelboard units are made in widths of 20 in., 30 in., 40 in., 50 in., 60 in., 70 in., 80 in., 90 in., 100 in., 110 in., 120 in. Heights and trims are code-gage steel. Cabinet sizes measure 24 by 72, 24 by 84, 24 by 96, 24 by 108, 24 by 120 in.

**Bulletin** "A-51-1, Code Panelboards" 16 pages, includes illustrations and technical data with overlapping information and specifications on the new interchangeable or switches, circuit breakers, panelboards for power and light distribution.

REPRINT—Identify by IEN-1306 if you write the maker

## FORMING . . Machine for plastics folds and seals plain or over inserts

Source: PROGRESSIVE ELECTRONICS CO. 128-32 Eighth St., Passaic, N. J.



**Electro Folder** is a new combination of plastic forming machine to fold straight or irregular shapes in thermoplastic sheet materials and then to heat seal the fold by application of dielectric energy. Through lock-in electrodes the machine is available in two sizes to make folds to 12 or 24 in. in length. Fold depth ranges from ¼ to ⅝ inch. A timer controls the automatic operating cycle of clamping, folding, heating and releasing.

**The machine** will move a simple fold and will heat seal it. It will fold over paper or textile stays, cords or other inserts and then will heat seal so no adhesive is required for the assembly. It will endorse the portion under pressure in the folding mechanism when adhesive designs are placed for this purpose. The smaller of the two machines takes 19 by 24 in. of floor space. The larger one takes 21 by 31 inches. Operation is on 110 or different single phase or. Electronic equipment for the dielectric heating is in the cabinet base.

*All Makers of These and All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings* *See Page 18*

REPRINT—Identify by IEN-1307 if you write the maker

**LOW-COST, SAFE . . .**

**CHLORINE DISPENSER**

**(RATO-CHLOR)**

Automatically meters, controls and dispenses 10-1300 lb/day of chlorine

Two types available: dry-vacuum solution feed and dry gas pressure feed

The F&P Dispenser is used in:

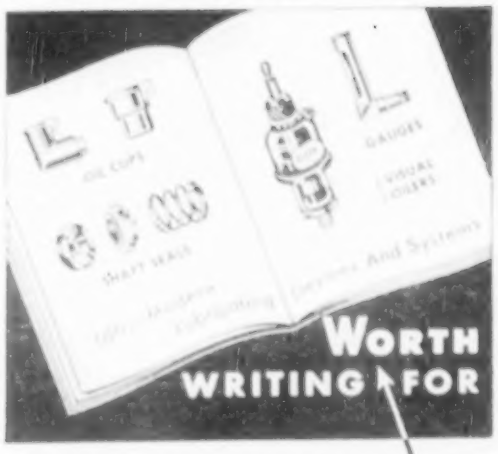
| | |
|---|---|
| Chemical | Sugar |
| Food | Textiles |
| Petroleum | Heavy Industry |
| Power Plants | Industrial |
| Pulp & Paper | Municipal |
| Sewage | Private |

and other fields

WRITE FOR CATALOG C1

**FISCHER & PORTER CO.** Dept. OM-4D Hatboro, Pa.


REPRINT—Identify by IEN-1308 if you write the maker


**WORTH WRITING FOR**

YOUR GITS GUIDE TO **PROPER** LUBRICATION AND SHAFT SEALING

to help keep your machines running—reduce down-time—cut maintenance costs

GITS ENGINEERS—WITH 40 YEARS' EXPERIENCE—ARE AT YOUR SERVICE. SUBMIT YOUR PROBLEMS TO US. NO OBLIGATION.

**GITS BROS. MFG. CO.**
1554 S. Kilbourn Avenue Chicago 23, Illinois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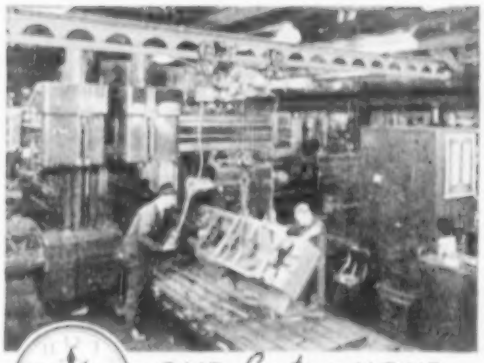


**ONE *Extra* HOUR OF PRODUCTION DAILY**

When these two gantries, in earlier form, 2 years, had and some of these machines had to cut of longer compressed operations, cranes were used to move the time to load and unload the machines. It was much faster and more pro-

GET THIS BOOK!

Cleveland Tramrail Division
The Cleveland Crane & Engineering Co.
4208 East 49th St., Wickliffe, O.

**CLEVELAND TRAMRAIL**


REPRINT—Identify by IEN-1310 if you write the maker


**INSULATE WITH SYNTHANE**

If you require a material for your product or process which must possess superior electrical properties, why not consider Synthane? It may be just what you are seeking.

Synthane laminated plastics have a combination of qualities such as low power factor, high dielectric strength, low dielectric constant and unusually good electrical insulating ability. These, with Synthane's mechanical and chemical characteristics, make it a material valuable for many applications in a wide variety of industries.

If your material requirements are strict and your present materials unsatisfactory, why not investigate Synthane? Just mail the coupon for your copy of the Synthane catalog or write for specific information without obligation.

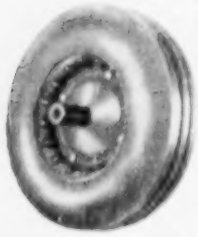
**SYNTHANE**

TECHNICAL PLASTICS
SHEETS • RODS
TUBES • FABRICATED
PARTS • BILLETS
LAMINATED • MOLDED
MACERATED

SYNTHANE CORPORATION
Fourth & Cut Road, Oaks, Pa.

Please send me copy of my catalog
Name
Company
Address
City State

IEN-1311



DICO ZERO PRESSURE
Model LB-75 4.00 x 8 Wheel

FUNCTIONAL FREEDOM. Your pneumatic tired DICO low pressure lug base wheel is designed for wheelbarrow, garden tractors, cement mixers, light agricultural equipment, platform trucks, and portable equipment where speeds do not exceed 8 to 10 M.P.H. Available with roller, flat or Applicator Tire for Tread Rotor Bearings 5/8, and 3/4. Hub lengths 4, 5, 6, 7, and 7½. Other bearing sizes available. Heavy duty 2-piece, 8 bolt design. A large steel Dropped Center Rim (optional) welded to separate heavy steel hub.

We manufacture a complete line of Lug Base, Disc Center and Semi-pneumatic Rim Industrial Wheels from 4 to 18 inches outside diameter.

(LET DICO SOLVE YOUR WHEEL PROBLEMS)

DICO MANUFACTURING CO.
402 S.W. 16TH ST. DES MOINES 5, IOWA

IEN-1312

Fuller Rotary Compressors have fewer moving parts—rotor—bearings—blades— than any other machines for similar service. This mechanical simplicity, together with correct design and precision construction, has contributed to enviable records of long continuous operation, with minimum maintenance expense.

Fuller Rotary Compressors are built in single and two stage for capacities to 3300 C.F.M., pressures to 125-lb. Vacuum Pump for vacuums to 29.92-in., referred to 30-in. barometer.

Write for Bulletin C-5. It's yours for the asking.

FULLER COMPANY
110 BRIDGE STREET—CATASAUQUA, PA.
CHICAGO 1 · SAN FRANCISCO 4 · WASHINGTON 5, D. C.

IEN-1313

with
ROCKWOOD
TRIPLE ACTION
*LIGHTweight*
SG-48
WaterFOG
NOZZLE

- HIGH VELOCITY WaterFOG
- STRAIGHT STREAM
- LOW VELOCITY WaterFOG from EXTENSION APPLICATORS

Extinguishes fires in flammable liquids and ordinary combustibles faster with less water. Protects firemen from fire, smoke and heat. Cone permits firemen to reach the very core of the fire and to attack it with less physical punishment.

Designed for use in industrial plants, chemical plants, industrial and public buildings, as well as municipal fire departments, etc.

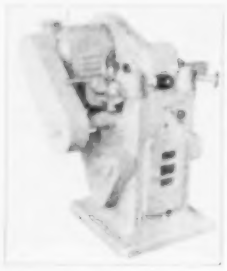
Write for Bulletin C 5018

ROCKWOOD SPRINKLER CO.
40 HARLOW STREET WORCESTER 5, MASS.

IEN-1314

WOOD WORKING . . Turning machine for rods, dowels to 2 in., to 200 fpm.

Source: HAWKER MFG. CO.
1423-27 Keowee St., Dayton 4, Ohio



Model 1930 is a new development in a line of Hawker machines for turning rods, dowels, etc. It is a floor model, has a 3 hp motor, 1/4 to 2 in. capacity, and turns at speeds up to 200 fpm. The operator controls speed by a foot pedal. The feed is accomplished by a pneumatic cylinder.

Feed rolls

IEN-1315

MARKING . . Aluminum holder for steel stamps, also for other tools

Source: M. E. CUNNINGHAM CO.
99 E. Carson St., Pittsburgh 19, Pa.

This stamp holder is designed for use with a hammer. It is made of steel and has a knurled handle. The holder is adjustable to any angle desired. The stamp is held in place by a thumbscrew. The holder is available in 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1 1/8, 1 1/4, 1 1/2, 1 3/4, 2 in. sizes.

IEN-1316

PROTECTING . . Fabric glove with neoprene coated palm and fingers

Source: EDMONT MFG. CO.
516-20 Orange St., Coshocton, Ohio

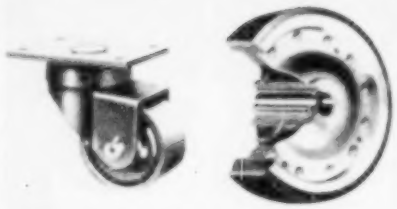
New design of Edmont glove has a fabric back and knit cuff, and is coated with neoprene. Glove is 12 in. long, 7 oz. per pair. Available in sizes 7 to 10.

IN WIRE-MESH PRODUCTS
LET JELLIFF DO IT!

THE C. O. JELLIFF MFG. CORP.
SOUTHPORT CONNECTICUT

IEN-1318

DARNELL
CASTERS & WHEELS



will pay for themselves many times over. Made in nearly 4000 types for every industrial use. Investigate today.

DARNELL CORP. LTD.
LONG BEACH 4, CALIFORNIA
60 WALKER ST., NEW YORK 13, N.Y.
36 N. CLINTON CHICAGO 6, ILL.

IEN-1319

CLANCY
SURE-GRIP HOSE CLAMPS

IEN-1320

Used by the best

*Because it's the best!*

NAGLE PUMPS
For ABUSIVE USE

These are only a few of the well-known companies that have put Nagle Centrifugal Pumps to the test . . . and found them outstanding for longer, trouble-free, low maintenance service. Simplicity of design, accessibility of moving parts, careful selection of the best impeller for the specific job, and selection of the best material to resist the corrosive or abrasive action. These are all factors contributing to Nagle Pump's success in abusive jobs. Send for Bulletin 470.

*Nagle Pumps*
1241 CENTER AVENUE
CHICAGO HEIGHTS, ILL.

▼ IEN - 1321 ▼

Package Assembly and Closing Cost Less with ACME SILVERSTITCHER

Dept. IEN-20

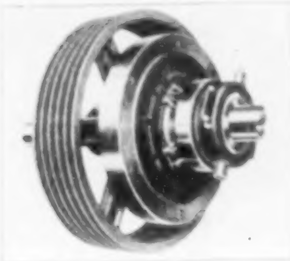
ACME STEEL COMPANY

SEND FOR FREE BOOKLET

▼ IEN - 1324 ▼

## DRIVE . . Disc type friction clutch with interchangeable V-belt sheave

Source: EDGEMONT MACHINE CO. 2201 Home Ave., Dayton 1, Ohio



New assembly ...

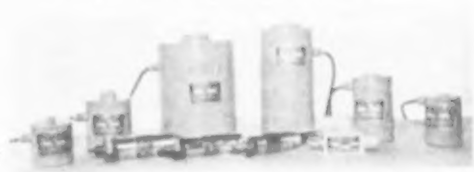
A sheave ...

The clutch ...

▼ IEN - 1325 ▼

## GAGE . . Load and pressure cells read loads and pressures electrically

Source: BALDWIN LOCOMOTIVE WORKS Paschall Post Office, Philadelphia 42, Pa.



New cells ...

Two new units ...

Pressure cells ...

Universal cells ...

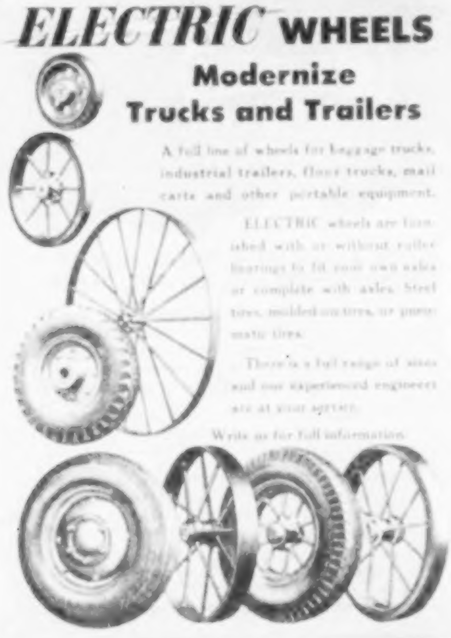
▼ IEN - 1327 ▼

OWATONNA TOOL COMPANY

CEDAR STREET OWATONNA, MINN.

▼ IEN - 1322 ▼

ELECTRIC WHEELS Modernize Trucks and Trailers



A full line of wheels for baggage trucks, industrial trailers, floor trucks, mail carts and other portable equipment.

ELECTRIC wheels are furnished with or without roller bearings to fit your own axles or complete with axles. Steel tires, molded-on tires, or pneumatic tires.

There's a full range of sizes and our experienced engineers are at your service.

Write us for full information.

ELECTRIC WHEEL CO., 2932 Spruce, Quincy, Ill.

▼ IEN - 1328 ▼

Here is why ALCO-LITE ALUMINUM LADDERS Cost Less!

WRITE FOR INDUSTRIAL LADDER CATALOG

ALCO-LITE ALUMINUM LADDERS

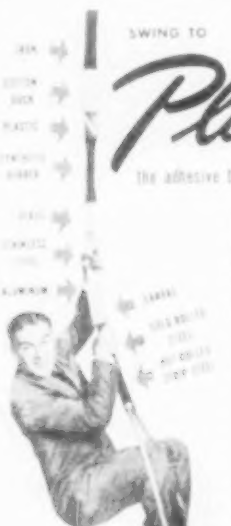
ALUMINUM LADDER COMPANY

100 CARRIS STREET • WORTHINGTON, PENNA.

▼ IEN - 1323 ▼

SWING TO *Pliobond*

the adhesive that "bonds anything to anything"



For full information, write: GOODYEAR, CHEMICAL DIVISION AKRON 16, OHIO

GOODYEAR

▼ IEN - 1326 ▼

ISOMODE PADS!

THE MB MANUFACTURING COMPANY, INC. 1064 State St., New Haven 11, Conn.

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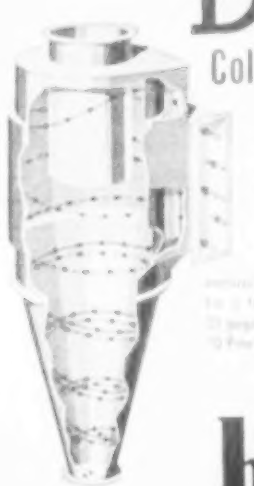
Want the Answers on Dust Collection and Recovery?



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Engineered Efficiency in DUST RECOVERY

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# NEW! LOW PRICED PRECISION MADE

MULTI-PURPOSE

## CAM PRESS

PRICE ONLY $42.00 F.O.B. Marshalltown

MARSHALLTOWN MANUFACTURING CO.
MARSHALLTOWN, IOWA

IEN-1331

# VAC-IT does all your cleaning JOBS

Doyle VAC-IT

DOYLE VACUUM CLEANER CO.

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# Now SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!

BUSHINGS MADE IN FOLLOWING SIZES

STURDY BROACHING SERVICE

Write for Literature

IEN-1333

## TESTING . . Gas analyzer records sulfur dioxide in atmosphere

Source: LEEDS & NORTHRUP CO.
4934 Stenton Ave., Philadelphia 44, Pa.

IEN-1334

## CLEANING . . Detergent powder adds to water for general industrial use

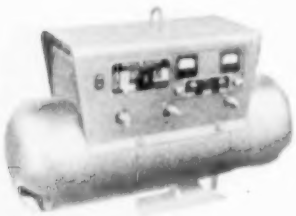
Source: PHILADELPHIA QUARTZ CO.
139-23 S. 2nd St., Philadelphia 6, Pa.

Packaged in 100 to 300 pound bags, kegs, drums

IEN-1335

## GENERATOR . . Motor driven unit rates 265 amp., 7.5 kw., two voltages

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.



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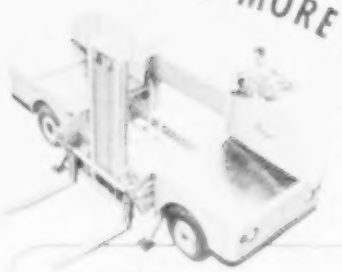
# NEED MORE SPACE?



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EXPANDS THE SPACE YOU HAVE!

LULL MANUFACTURING CO.

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AMES FEATHER-LIGHT POCKET-SIZE THICKNESS MEASURES

Representative in principal cities. B. C. AMES CO. 33 Amer Street Waltham 54, Mass.
Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

AMES COMPACT BENCH-MODEL DIAL COMPARATOR No. 2

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POWERFUL VIBRATION SPEEDS FLOW OF BULK MATERIALS FROM BINS, HOPPERS, AND CHUTES

Rapid, hammer-like blows from CLEVELAND Type "F" vibrators assure a steady flow of material from bins, hoppers, and chutes of all types. These powerful vibrators are recommended for moving bulk sand, coal, lime, ore, cinders, clay, steel chips, cement, soda ash, etc.

Low-cost, dependable Type "E" air vibrators are available from stock in six standard sizes for attachment to bins, and hoppers having capacities from one to several hundred tons.

CLEVELAND Type "E" vibrators operate at maximum efficiency regardless of mounting position. They are designed for continuous or intermittent operation and engineered for long service life.

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CLEVELAND VIBRATOR CO.
2737 CLINTON AVENUE
CLEVELAND 13, OHIO

IEN-1339

# FOTO-FLO MODEL C PHOTO-COPYING MACHINE

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Photocopy Papers • Photo-copying Machines • Photographic Papers

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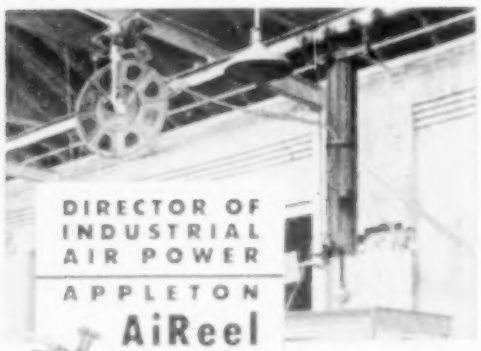

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CONDUIT FITTINGS · LIGHTED EQUIPMENT · OUTLET AND SWITCH BOXES
EXPLOSION-PROOF FITTINGS · RECEPTS

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**General Electric adjustable-speed drives can increase the output of your machines—make them more accurate, more versatile**

You can now buy General Electric drives previously engineered for your machines at quite positive prices. General Electric has brought them to a new fashion essentials and power to work production miracles like those shown here.

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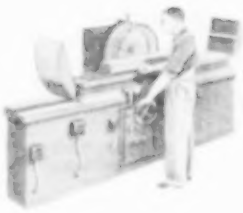


INCREASED GRINDING PRODUCTION 40

TO UNCOVER OPPORTUNITIES

GENERAL ELECTRIC

IEN-1343

COMMUNICATING . . Master stations and sub-stations for two-way talk

Source: SUPER MFG. CORP.
4536-40 Fillmore, Chicago 24, Ill.

IEN-1344

PAINTING . . Plastic base liquid for plant and product finishing uses

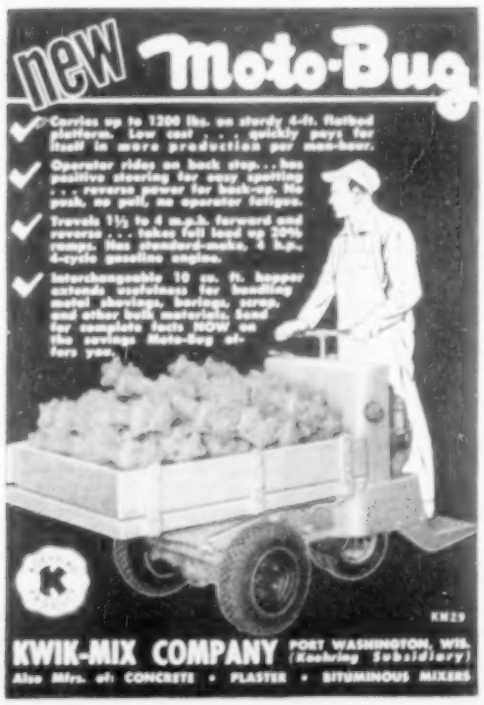
Source: PIONEER CHEMICAL & MFG. CO.
1845-51 Columbus Road, Cleveland 13, Ohio

IEN-1345

VENTILATING . . Motor driven fan circulates air in equipment housings

Source: FAIRCHILD CAMERA & INSTRUMENT CORP.
88-04 Van Wyck Blvd., Jamaica 1, N. Y.

IEN-1346

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and see how easy it handles, how much faster it can be tightened, how much better for assembly service, compact designs, quick take-apart and reassembly.

ON BRISTOL'S COMPLETE SOCKET SCREW LINE

Free . . 36 page catalog covers hex and multiple-spline set screws, cap and set. Address THE BRISTOL COMPANY, Mill Supply Division, 107 Bristol Road, Waterbury 91, Conn.

BRISTOL'S
SOCKET SCREWS

Only BRISTOL gives you the right Socket Screw for every application

IEN-1348

3 SIZES

SELF-ALIGNING, SMOOTH, ACCURATE, POSITIVE ADJUSTMENTS!

Machine Tool Manufacturers strongly emphasize the need, not only to set machines level, but to keep them that way. Precision is lowering in importance. Its accurate work convenient. How often depends on the type of Equipment. No method of machine setting is quick enough to minimize the necessity of initial leveling. It is important to check after first month of operation. Then check periodically and as long as necessary. Necessary? When is that long to get an EMPCO JACK? The above appearance is the result of long continued Simply apply a wrench to the "hex" screw head. Turn right or left until your level indicator reads "zero".

EMPCO
THE ENTERPRISE MACHINE PARTS CORPORATION
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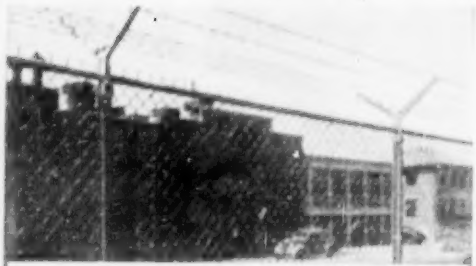
IEN-1349

Ingersoll-Rand

▼ IEN - 1350 ▼



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Provides Permanent Property Protection

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THE COLORADO FUEL AND IRON CORP.

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▼ IEN - 1353 ▼

## LUBRICATING . . Motor driven pump feeds from drum to bearing injectors

Source: LINCOLN ENGINEERING CO., 5732 Natural Bridge Ave., St. Louis 20, Mo.

Model 1837 is a new ...

▼ IEN - 1356 ▼

MORE BUSINESSMEN will buy Reznor unit heaters next week than any other make

That industrialists, merchants, dealers and contractors will buy more Reznor unit heaters next week than any other make is not new. It has happened for years. There's a reason for Reznor leadership. Write today.

REZNOR MANUFACTURING CO.

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A perfect folding chair for every industrial need

American Seating Company

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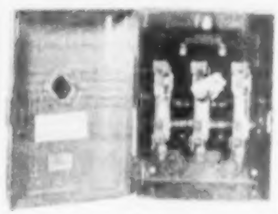
▼ IEN - 1354 ▼

## SWITCH . . Type-A safety unit available in 30, 60 and 100-amp. sizes

Source: TRUMBULL ELECTRIC MFG. CO., 39-43 Woodford Ave., Plainville, Conn.



Style HCI ...

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Most Amazing VARIABLE SPEED DRIVE Any Speed in ½ Second!

Stepless from Top to Zero and Reverse

Only Planetary Selector Using Standard V-Belts

Immediate Delivery! *Write for Bulletin!*

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POSITIVE TOOL STEEL IDENTIFICATION

WITH THIS NEW

*12-Color Chart!*

QUICKLY IDENTIFY TOOL STEELS!

REDUCE YOUR OWN MARKING COSTS!

AVOID COSTLY STOCK MIX-UPS!

SIMPLIFY INVENTORY-TAKING!

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NAME TITLE

COMPANY

ADDRESS

CITY ZONE STATE

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YALE *Lift King* telescopic electric fork truck

YALE — THE YALE & TOWNE MANUFACTURING CO.

Roosevelt Boulevard • Philadelphia 15, Pa.

HAND LIFT AND POWER TRUCKS • HAND AND ELECTRIC HOISTS • INDUSTRIAL DIAL SCALES

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A hand actuated compact hydraulic power unit for use anywhere — no power take off or motor needed — light weight, self contained, double acting pump that can be used with cylinders having lifting capacities up to 4000# — works in any position.

Few moving parts mean low maintenance.

Write for complete details.

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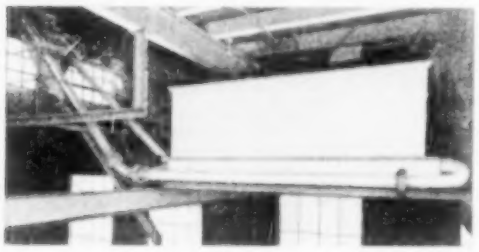
IEN-1360

# Houdaille® CONVEYOR

removes sludge from dust collectors at annual savings of $1,092



METAL WORKING INDUSTRY

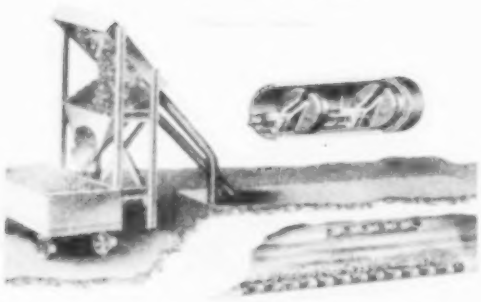
MATERIAL FROM DUST COLLECTORS

PLASTIC POWDERS

PACKING PLANTS

SOAP MANUFACTURING

MANY OTHERS



HONAN-CRANE CORPORATION
A Subsidiary of
HOUDAILLE-HERSHEY CORP.

IEN-1362

VALVE . . Diaphragm operated with pneumatic positioning controller

Source: FISHER GOVERNOR CO.
100 Fisher Bldg., Marshalltown, Iowa

IEN-1363

SOLDERING . . Liquid flux for brass, copper, Monel Metal, steel

Source: FARRELLOY CO.
1249 N. 26th St., Philadelphia 21, Pa.

Single gallon lots at $2.25

IEN-1364

NAME PLATES . . Die stamped designs as specified, any quantity, 3 or more

Source: FEDERAL TOOL & MFG. CO.
1615-22 Alabama Ave., Minneapolis 10, Minn.

IEN-1365

IEN-1366

IEN-1367

**BLENDING AND SORTING WITH VACUUM**

This Spencer Vacuum Producer is located between two huge storage tanks on the roof of a large chemical plant. Dried plastic granules are picked up from the trays with a Spencer "Gulper" tool as they come from the ovens. One tray containing 10 pounds of material is emptied in one minute. The plastic is then conveyed by vacuum to the roof, 35 feet above and is separated by the Spencer Centrifugal Separator and then dropped down over vibrating screens.

150 USES FOR VACUUM...ASK FOR BULLETIN
SPENCER VACUUM CLEANING
HARTFORD
THE SPENCER TURBINE COMPANY, HARTFORD 6, CONN.

IEN-1368

IEN 1369


# NEW
G-E SURFACE ROUGHNESS
# SCALES

...cut production costs 3 WAYS

1.

2.

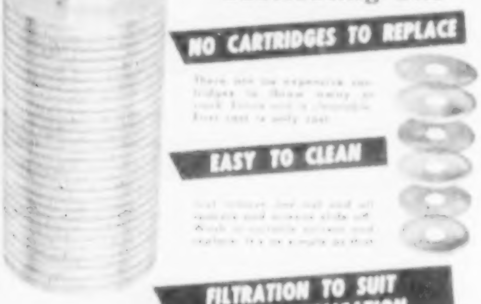
3.

IMMEDIATE SHIPMENT. List Price $10.55. Write to Special Products Div., Apparatus Dept., General Electric Co., Schenectady, N.Y.

GENERAL ELECTRIC


IEN 1370


# New GENERAL FILTER
for Hydraulic and Lubricating Oils



NO CARTRIDGES TO REPLACE

EASY TO CLEAN

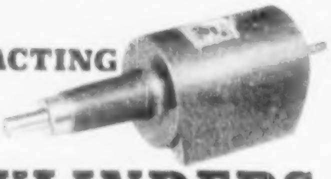
FILTRATION TO SUIT EVERY APPLICATION

Write!

GENERAL FILTERS, Inc.
12890 WESTWOOD — DETROIT 23, MICH.


IEN 1371


SINGLE-ACTING
# AIR CYLINDERS



MEAD SPECIALTIES COMPANY


IEN 1372

## THERMOSTAT .. Bimetal unit for appliances, 15 amp. on 110 volt ac.

Source: STEVENS MFG. CO.
47 Richland Trust Bldg., Mansfield, Ohio

IEN 1373

## CORROSION PROOFING .. Clear liquid puts non drying film on metal surfaces

Source: INTERNATIONAL RUSTPROOFING CO.
13511 Plover Ave., Cleveland 7, Ohio

Work surface shows through

IEN 1374

## GAGE .. Reads liquid level or depth in an open storage tank, air operated

Source: LIQUIDEPTH INDICATORS INC.
42-28 28th St., Long Island City 1, N. Y.



IEN 1375


# Figure It Yourself!

Rotabins reduce storage space

Conventional Shelving Floor Layout

½ sq. ft. for storage and 1 sq. ft. for aisles

Rotabin Floor Layout

2 sq. ft. for storage and 1 sq. ft. for aisles

Rotabins also save time . . .

. less time walking
. less time looking
. . . . less breakage
. . . . less loss

Let F-G-M engineers help you plan most profitable layout. Send for Catalog 106-A.
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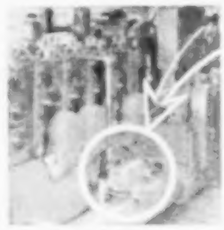
FGM FRICK-GALLAGHER
WELLSTON, OHIO
SHELVING • PARTS BINS • ROTABINS
COUNTERS • RACKS • TABLES


IEN 1376


FULFLO
COOLANT PUMPS
keep work and tools uniformly
# cooler



and help you do plenty of other things, too.

THE FULFLO Specialties Co., Inc.
BLANCHESTER, OHIO


IEN 1377


# TEMPERATURE CONTROLLER

Automatically throttles gas supply to maintain desired temperature. Five ranges between 0 and 1000 deg. F. on supply pressures to one pound.

BULLETINS 206 AND 250 PROVIDE DETAILS. SHOW BULB CONSTRUCTIONS FOR SPECIAL INSTALLATIONS. BULLETIN 340 SHOWS COMPLETE LINE.

THE PARTLOW CORPORATION
4 CAMPION ROAD NEW HARTFORD, N. Y.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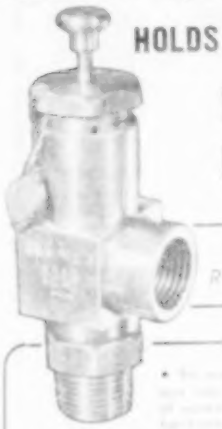
BETTER . . . SURER . . . SIMPLER
The improved STAR BRAKEMOTOR
The best D....d* motor for tough "start and stop" jobs

STAR ELECTRIC MOTOR CO.
200 Bloomfield Avenue
Bloomfield, New Jersey

IEN-1379

*Even after repeated "popping" . . .*

**HOLDS REFRIGERANT WITHOUT LEAKING**



*the new B S & B Refrigerant Relief Valve*

BLACK, SIVALLS & BRYSON, Inc.

IEN-1382

TESTING . . Carbide tool, holder and abrasion unit read machinability

Source: VANTON EQUIPMENT CORP.

IEN-1385

**There's a Century MOTOR To Supply Dependable Power For All Popular Applications**

ALTERNATING CURRENT MOTORS — SINGLE PHASE — POLYPHASE

DIRECT CURRENT MOTORS

GENERATORS

MOTOR GENERATOR SETS

**CENTURY ELECTRIC COMPANY** 1806 PINE STREET, ST. LOUIS 3, MISSOURI

*Offices and Stock Points in Principal Cities*

IEN-1380

*Here's why*

**TRU-LAY PUSH-PULL**

**is a valuable aid in machine design**

TRU-LAY Push-Pull is precision-made. Therefore it . . .

is positive in action as a steel rod yet flexible as wire rope

transmits action over long or short lengths, with low or none bends

will operate while flexing with practically no lost motion

is made in capacities up to 1000 pounds input

is designed for long life—machine parts—not a flexible product

MAIL THE COUPON BELOW

ACCO

**AUTOMOTIVE AND AIRCRAFT DIVISION AMERICAN CHAIN & CABLE**

Please send me copy of descriptive bulletin DH-57-E-1

Name

Company Name

Address

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PUMP . . Motor driven centrifugal for sump service rates to 60 to 80 gpm.

Source: DEMING CO.

IEN-1386

For low-cost handling of liquids, *investigate this—*

TOKHEIM OIL TANK AND PUMP COMPANY

IEN-1384

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The all-steel union that gives you LEAK PROOF SEALING . . . FASTER MAKE-UP . . . GREATER STRENGTH . . . LONGER LIFE

Ask your Distributor, industrial or Mill Supply Store for WECO JUNIOR UNIONS, illustrated brochure available. Write for your copy today.

**WELL EQUIPMENT MFG. CORP.**

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Exclusive Sales Representative: Pacific and Southwest Area: DUNLAP COMPANY

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Manufacturers and Distributors of Oilfield, Refinery, Marine and Industrial Equipment

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To combat Corrosion . . . use HASTELLOY *Alloy Wire*

**HAYNES STELLITE DIVISION**

Union Carbide and Carbon Corporation

UCC

General Office and Works, Kokomo, Ind.

IEN-1388

GOTTSCHO
ROLAPRINTER
*...makes printing a part of your processing*

ADOLPH GOTTSCHO, INC.
MACHINES TO MARK WHATEVER YOU MAKE
185 DUANE STREET NEW YORK 13, N. Y.

IEN-1389

IEN-1390

IEN-1391

**SHEARING . . Wheel type machine slits and winds paper, textiles, rubber**

Source: CAMERON MACHINE CO.
59-63 Poplar St., Brooklyn 2, N. Y.

IEN-1392

**PACKAGING . . Multiwall bag with plastic-coated kraft paper ply**

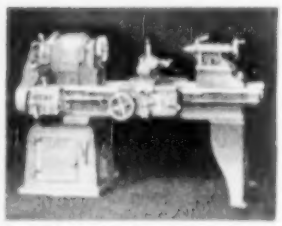
Source: ST. REGIS PAPER CO.
230 Park Ave., Room 1460, New York 17, N. Y.

Has been on test for past year

IEN-1393

**LATHE . . General purpose machine swings 24 in., 30 to 102 in. on centers**

Source: SOUTH BEND LATHE WORKS
301 E. Madison St., South Bend 22, Ind.



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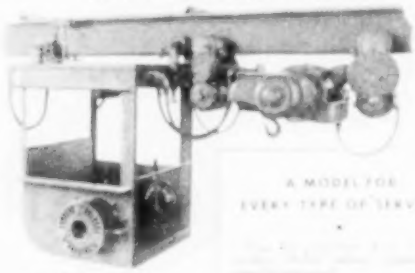
## For "Long Haul" Economy

CAPACITY 500 POUNDS TO 20 TONS



A MODEL FOR EVERY TYPE OF SERVICE

HOISTING UNITS

**Shepard Niles** CRANE & HOIST CORPORATION

436 SCHUYLER AVE. • MONTOUR FALLS, N. Y.

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## PRECISION CASTING FOR TOUGH JOBS!

- Virtually no machining required
- Ideal for small components of intricate shape and design
- Possess an amount of use of high tensile, non-machinable metal

MICROCAST DIVISION
AUSTENAL LABORATORIES, INC.

IEN-1401

## BATTERY CHARGING . . Four circuits for batteries on small shop trucks

Source: ELECTRIC PRODUCTS CO.
1123-27 Clarkstone Road, Cleveland 12, Ohio

IEN-1402

## ADHESIVE . . Liquid material to bond cellulose acetate work pieces

Source: SCHWARTZ CHEMICAL CO.
324-28 W. 70th St., New York 23, N. Y.

Packaged in quarts to 55-gallon drums

IEN-1403

## PIPE FITTINGS . . Malleable iron, U-Cote treated to resist corrosion

Source: UNION MALLEABLE MFG. CO.
49 Industrial St., Ashland, Ohio

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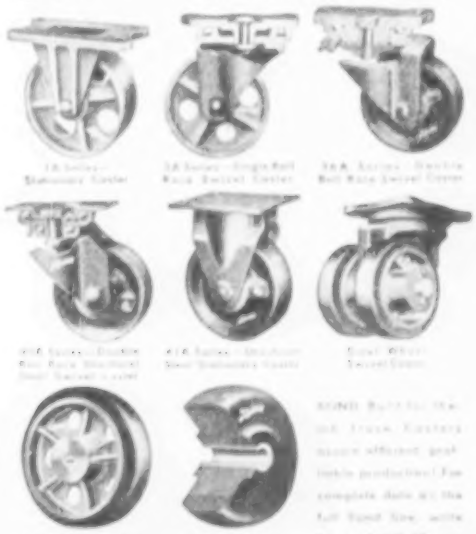
IEN-1405

ALLIS-CHALMERS, ROOM 50, 70 ST.
MILWAUKEE, WIS.

**ALLIS-CHALMERS** A-C

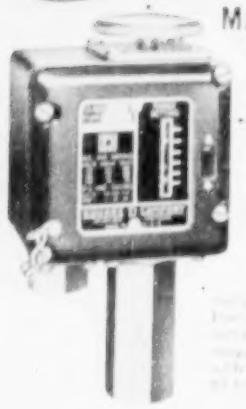
IEN-1406

IEN-1407




BOND FOUNDRY & MACHINE CO., 304 Penn St., Manheim, Pa.

IEN-1408



**NEW** PRESSURE SWITCH Designed for MACHINE TOOL SERVICE

Write for Bulletin 9012-A, Square D Company, 4041 N. Richards Street, Milwaukee 12, Wis.

SQUARE D COMPANY

IEN-1409

WINTER OR SUMMER

The Emerson Electric Mfg. Co., St. Louis 21, Mo.

EMERSON ELECTRIC MOTORS • FANS APPLIANCES

IEN-1410

S.S.WHITE ELASTOPLASTIC ALEMITE FITTING CAPS

ASK FOR FREE BULLETIN

S.S.WHITE PLASTICS

IEN-1411

EXTINGUISHING . . Emergency blanket to smother fire in a worker's clothing

Source: INDUSTRIAL PRODUCTS CO., 2801 N. Fourth St., Philadelphia 33, Pa.

IEN-1412

MARKING . . Carbide die combines bolt heading and marking

Source: CARBOLOY CO., 11167 E. 8 Mile Road, Detroit 32, Mich.

IEN-1413

CONVEYING . . Unscrambling table aligns containers dumped on its top

Source: ISLAND EQUIPMENT CORP., 27-03 Bridge Plaza N., Long Island City 1, N. Y.

IEN-1414

Whatever the Job . . . Uniforms Look Better, Wear Longer, Made of

REEVES FABRICS

REEVES BROTHERS, Inc.
54 WORTH STREET, NEW YORK 13, N. Y.

IEN-1415

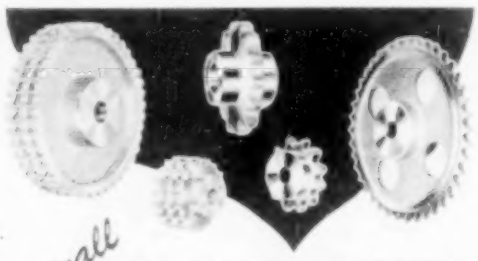
Need a Special Pallet?

NATIONAL has a model for every purpose

Here's the new "National Utility"

NATIONAL PALLET CORP.
MAIN OFFICE: OLIVER BUILDING PITTSBURGH 22, PA.

IEN-1416



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★PRECISION BUILT
★COMPLETE LINE

CUSTOM-BUILT GEARS for every requirement

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E. B. SEWALL MANUFACTURING CO.
686 Glendale St. St. Paul 4, Minn.

IEN-1417

INCREASE EFFICIENCY

INDUSTRIAL TAPE DIVISION
THE SEAMLESS RUBBER COMPANY
NEW HAVEN 3, CONN., U.S.A.

IEN-1418

IEN-1419

IEN-1421

SEAT . . Rides rubber in torsion to absorb vertical and lateral shock

Source: ROSTROM MFG. CO.
131-35 W. Chicago St., Milwaukee 4, Wis.

IEN-1422

FLOORS . . Mastic material makes resilient surfacing on concrete

Source: TREMCO MFG. CO.
4701 Kinsman Road, Cleveland 4, Ohio

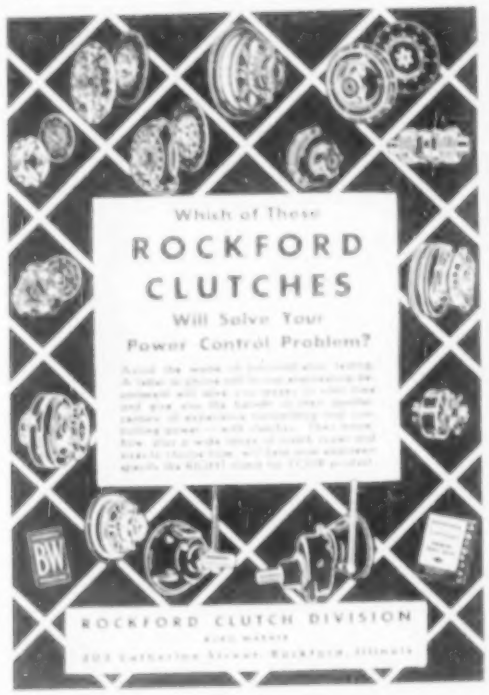
IEN-1423

VALVE . . Handwheel attachment for company's diaphragm control valves

Source: HAMMEL-DAHL CO.
241-45 Richmond St., Providence 3, R. I.

IEN-1424

IEN-1425

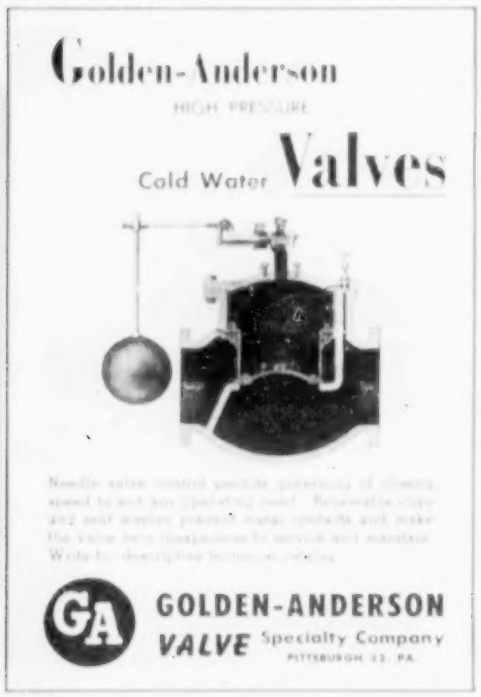



IEN-1426

IEN-1427

IEN-1428

IEN-1429




IEN-1430

IEN-1431

## PRESS ATTACHMENT . . Clutch operator keeps worker's hands from danger zone

Source: DAYTON ROGERS MFG. CO.
2822-24 13th Ave. S., Minneapolis 7, Minn.

Three mechanisms make up the assembly of this unit, designed to force an operator of a press to use both of his hands to effect downward action of a punch press and to prevent the press operation when a single stroke only has mechanism have been removed. One of the three mechanisms is on top of the press for control to the position of the crank. This unit connects to the second mechanism on the side of the press through a flexible point pull control.

**The second mechanism** is on the pull rod between the clutch and press operating foot pedal. It also connects through a second push pull control to the third mechanism, which remains in safe position at the press frame. Two pedals in this unit must be held in operating position before the clutch can be engaged. They must be held during the time the press ram is moving downwards, can be released on the upstroke. The equipment applies on any press operated by a foot clutch.

IEN-1432

## TESTING . . Carbide ball, 10-mm. diameter for Brinell machine

Source: KENNAMETAL INC.
100 Lloyd Ave., Latrobe, Pa.

Suited for hot hardness tests

**Kentanium** carbide makes new Brinell carbide ball, 10 mm. in diameter for use in hardness testing on a Brinell machine. The ball is sealed finish. It is highly resistant to oxidation, abrasion, scratching, deformation. It remains resistant to oxidation at temperatures to 1,800 deg. F.

IEN-1433

## STORING . . Rotary filing cabinet mounts wheel carrying trays for cards

Source: FERRIS BUSINESS EQUIPMENT INC.
950-54 Main St., Bridgeport 3, Conn.

Steel trays are provided like file cards to fit in frame wheel in this new filing cabinet. They are brought up to office position in the operator at the top of the wheel. Cabinet for carrying the wheel mounted vertical, or it may also be fitted for carrying the wheel on an inclined plane.

Three models take 2 to 5-in. x 8-in. trays. 5 to 8-in. cards in quantities holding 1000, 1500 and 2000. Approximate dimensions are 36 in. by 18 in. by 36 in.

All Makes of These and All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 50

IEN-1434

IEN-1435

IEN-1436

IEN-1437

IEN-1438

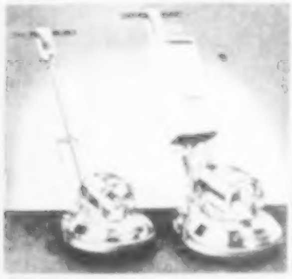
COMPARE FASTENING COSTS—
SEE HOW MUCH *Ramset* SAVES

STEMCO CORPORATION, Cleveland 16, Ohio


IEN-1441

## CLEANING . . Rotary brush machine for floors, also scrubs, sands, waxes

Source: AMERICAN FLOOR SURFACING MACHINE CO.
516-20 S. St. Clair St., Toledo 4, Ohio



IEN-1442

## PAINTING . . Glass coating enamel, transparent and opaque, white, colored

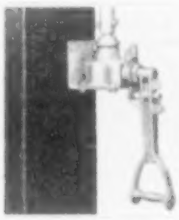
Source: BROOKLYN VARNISH MFG. CO.
49-52 Jay St., Brooklyn 1, N. Y.

Sample available on request

IEN-1443

## SWITCH . . Hand operating lever for outdoor disconnecting switches

Source: RAILWAY & INDUSTRIAL ENGINEERING CO.
Kerr St., Greensburg, Pa.

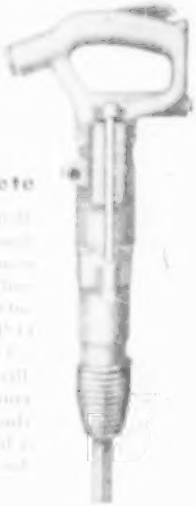


New lever unit [illegible]

Application [illegible]


IEN-1448

# 90 seconds a hole



through 6-inch concrete

CHICAGO PNEUMATIC TOOL COMPANY
8 East 44th Street, New York 17, N. Y.

PNEUMATIC TOOLS · AIR COMPRESSORS · ELECTRIC TOOLS · DIESEL ENGINES · ROCK DRILLS · HYDRAULIC TOOLS · VACUUM PUMPS · AVIATION ACCESSORIES

IEN-1439

# WHITING CORP.
# Cites 3 Advantages
# OF FULLERGRIPT BRUSHES

Now Standard Equipment on all Whiting Bus Washers

Whiting engineers have standardized on Fullergript brushes with plastic cores for their bus washers because (1) greater control over the density of bristles may be maintained, (2) the bristles stay in the brush and (3) when replacements are necessary, they may be made in a matter of minutes instead of hours. Small segments of the Fullergript strip may be replaced as they wear down. The brush material is wire anchored under great pressure inside a rigid, rust-resistant metal channel.

Whiting Bus Washers, which thoroughly clean a bus in less than a minute, are helping many transportation lines to build good customer relations by meeting the public's growing demand for clean, attractive equipment. The Whiting Corporation, like scores of other companies in a wide variety of industries, has found that it pays to standardize on Fullergript. Have you investigated the time and cost saving possibilities of Fullergript for your plant? For information write to...

INDUSTRIAL DIVISION, [illegible] MAIN STREET, HARTFORD 2, CONN.

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IEN-1444

Colson LIFT-JACK Systems Save Time, Money, Effort

Put new hustle in your materials handling with Colson Lift-Jack Systems. Through production, in and out of storage, on and off freight cars, one Colson Lift-Jack with wood or steel platforms does the work of many conventional hand trucks, saves time & money. Other cost-cutting Colson equipment includes drum and barrel trucks, platform trucks, hand trucks and famous Colson load-floating wheels and casters.

Colson Lift-Jack with Wood Skid.

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ELYRIA, OHIO
CASTERS · · LIFT JACK SYSTEMS · · INDUSTRIAL TRUCKS

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# Speed Up Industrial Waste Disposal

● Remove industrial waste fast with Koehring 205. A reliable high production unit in a small package, the Koehring 205 is the ideal excavator for the industrial plant. Half-yard shovel capacity. 15,500 lbs. lifting capacity (75% rating). Easily convertible from shovel to lift crane, pull shovel, to dragline. Contact your Koehring distributor today.

KOEHRING 205
KOEHRING COMPANY, Milwaukee 10, Wis.

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**Here's How STURTEVANT Air Separators Increase Production of Fines ...Lower Production Costs**

Sturtevant Air Separators effect production savings by increasing output by 25 to 100%, reducing power consumption by as much as 50%.

They efficiently carry off all classified materials in any desired fineness from 40 to 325 mesh and finer ... eliminate the need of screening in certain applications. Capacities available from ¼ to 50 tons per hr. *Write for full details today.*

**Sturtevant Mill Company**
113 Clayton Street, Boston 22, Mass.

IEN-1449

**Save Valuable Space With the JOY WG-9 COMPRESSOR**

The WG-9 features the JOY "Dual Cushion" Valve for top efficiency in continuous, heavy-duty service. Vertical design and small foot print mean savings on floor space. Charge sizes from 175 to 810 CFM. The complete JOY line includes compressors from 81 to 710 CFM capacity—the most modern available for either centralized or decentralized air supply. *Write for Bulletin.*

*Consult a Joy Engineer*

**JOY MANUFACTURING CO.**
General Offices: Henry W. Oliver Building
Pittsburgh 22, PA.
IN CANADA: JOY-SULLIVAN OF CANADA, LIMITED
GALT, ONTARIO

IEN-1450

**HERE'S LOWEST COST WAY TO HANDLE SHOP LIQUIDS**

PHILLIPS Quart and Gallon Stroke BARREL PUMPS

Phillips single stroke, hand operated Barrel Pumps are available individually or as complete Phillips Tank Units—Can be placed to withstand corrosive liquids. Save time—prevent waste with low-cost, dependable Phillips Barrel Pumps.

FOR COOLANTS—LUBRICANTS

Write for prices and FREE Catalog—today

**PHILLIPS PUMP & TANK CO.**
5010 Bialhorton Rd. Cincinnati 9, Ohio

IEN-1451

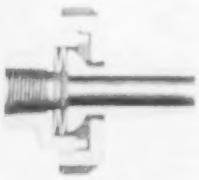
**MOTOR CONTROL . . Manual starter includes a magnetic circuit breaker**

Source: HEINEMANN ELECTRIC CO.
100 Plum St., Trenton 2, N. J.

IEN-1452

**PIPE FITTING . . Flexible swivel connects stationary with rotating line**

Source: BARCO MFG. CO.
1804 W. Winnemac Ave., Chicago 40, Ill.



IEN-1453

**TESTING . . Electronic equipment detects metal in non metallic materials**

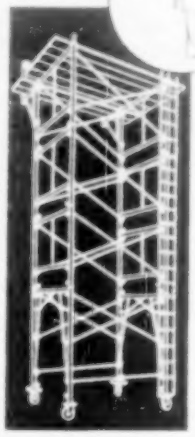
Source: FRIEZ MFG. CO.
1403 E. 12th St., Erie, Pa.

IEN-1454

**A.T. and M. CENTRIFUGING**

IEN-1455

*The Patented* **CAM LOCK** *is the* **SECRET!**



**ADVANCE ROLLING TOWERS** are *faster* to erect

All homes in ADVANCE Rolling Towers have self-contained Cam Locks which lock them securely and squarely in the panels by a flick of the wrist. Because of this patented feature, ADVANCE Rolling Towers are the fastest to erect and handle. They is quick-dependable, economical. Tubular steel construction—standard interchangeable parts for making towers of any height. Investigate ADVANCE before you buy.

*The Beaver line also includes tubular steel scaffolding and material hoisting towers. Write for literature.*

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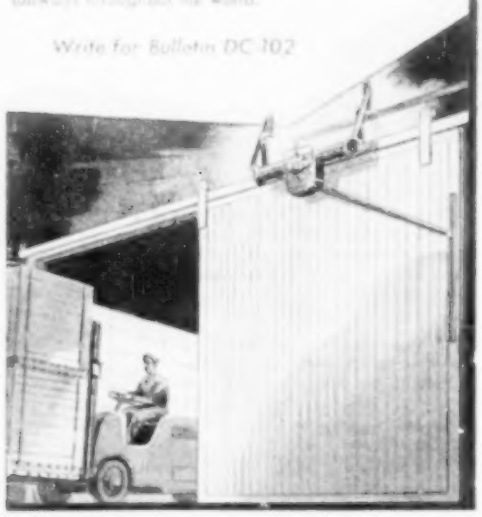
**KEEP YOUR DOORS *closed* when not in use**

**NP PRE-ENGINEERED** *Pneumatic* **DOOR OPERATORS**

SPEED UP material handling . . . isolate dust, fumes and fire hazards . . . reduce costs of air-conditioning and heat . . . increase productive time of employees, with N. P. air-powered Door Operators. They embody the same dependable N. P. Air Engines used to open and close the car doors of the great metropolitan subways throughout the world.

*Write for Bulletin DC-102*



**NATIONAL PNEUMATIC CO., INC.**
INDUSTRIAL DIVISION
Boston • Graybar Bldg., New York • Chicago

*Pneumatic Specialists Since 1904*

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**BIG REDUCTION IN LEAST SPACE**

**LINK-BELT**

**WORM GEAR SPEED REDUCER**

LINK-BELT COMPANY

**SEND NOW for Book No. 1824**

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**HUGE SURPLUS SALE of DELCO DUAL BLOWERS!**

**BRAND NEW! MADE BY GENERAL MOTORS!**

**OVER 1/2 OFF**

IDEAL FOR:
Darkrooms, Kitchens, Cooling Transmitter Tubes, Home Use, Humidifiers, Furnace Draft Boosters, Hair Dryers, Marine and Commercial Ventilation, etc.

- AC Shaded Pole Motor!
- 2750 RPM Velocity!
- 2800 RPM Operation!
- Dual Multi-Blade Fans!
- Dual Outlet Blowers!
- Quiet, Continuous Duty!

MANUFACTURERS! EXPORTERS! Write for discount on lots exceeding 100 blowers.

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167 WASHINGTON ST., BOSTON, MASS.

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*It's New!*

**HOMOGENIZED RUSTPROOFING**

**IRCOLENE No. 19**

**NOW** • more resistance to corrosion, • less tarnish & stain

**GOOD** • over steel parts in storage — over all non-ferrous metals

PROTECTS • SAVES • PROFITABLE

*Write for complete information on the new IRCOLENE No. 19*

**INTERNATIONAL RUSTPROOF CORP.**
12507-15 PLOVER AVE. CLEVELAND 7, OHIO

IEN-1461

SWITCH . . Float operated
for flange mounting on a closed tank

Source: CLARK COOPER CO.
62 Market St., Paterson, N. J.

Application:

IEN-1462

PAINTING . . Paint spray booth
for use in electrostatic painting

Source: DESPATCH OVEN CO.
617-21 S. 8th St., Minneapolis 14, Minn.

Company designs and manufactures

IEN-1463

WRENCH . . Drum plug tool
fits any size and shape of plug head

Source: SCHINKER MFG. CO.
6512-16 S. Western Ave., Chicago 36, Ill.

IEN-1464

get **AGASTAT** *for your* **TIME DELAY RELAY**

AGASTAT DIVISION
AMERICAN GAS ACCUMULATOR COMPANY
1027 Newark Avenue Elizabeth 3, New Jersey

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**NEW DENISON *High Pressure* HydrOILic PUMPING UNIT**

UP TO 5000 PSI
UP TO 35 GPM
CONSTANT OR VARIABLE VOLUME
OPTIONAL OIL COOLERS
CHOICE OF CONTROLS

Designed to Specifications of Joint Industry Conference Hydraulic Standards

The DENISON Engineering Co.
1110 Dublin Road, Columbus 16, O.

**DENISON HydrOILics**

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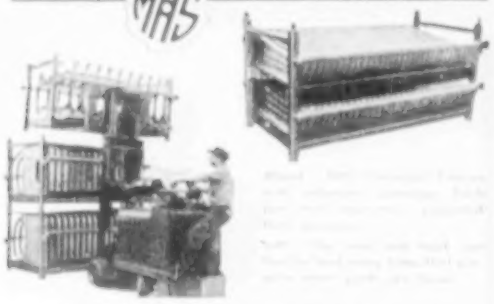
**SAVE MONEY AND SPACE BY USING MHS RACKS and BINS**



Eliminate much manual handling in moving parts around plant. Save labor. Save space in storing them until ready for later use. Racks nest for easy stacking. Send for complete booklet "Work Carriers".

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*Manufacturing Engineers*
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*TIE IT TIGHT*

*... that means GERRARD!*

GERRARD
ROUND STEEL STRAPPING
UNITED STATES STEEL

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for light-duty applications

FAFNIR RUBBER-MOUNTED BALL BEARING UNITS

Quieter! Cheaper!

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FAFNIR BALL BEARINGS

MOST COMPLETE LINE IN AMERICA

## For Your Special Information

ALL MAKERS ARE LISTED IEN S-1

**The one industrial activity** ...

**You can pick any subject** ...

**If you know these facts** ...

BROTHERHOOD WEEK FEBRUARY 19-26 IEN S-2

**We quote** from the NCCJ folder ...

TRAVELING COPY OF IEN IEN S-3

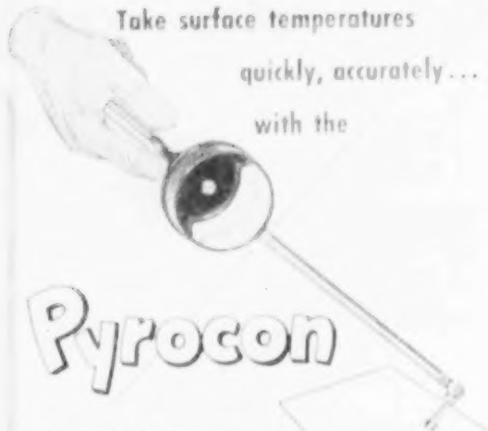
**We have received** the following ...

THE NEW LOOK IN TAX ARCHITECTURE....

IEN - 1469

Take surface temperatures quickly, accurately... with the

Pyrocon



The handy Alnor Pyrocon is unequaled for quick, accurate reading of surface temperatures of molds, steam traps, bearings, plastics, revolving rolls, and other materials. It's a well-balanced handy instrument that will stand heavy use, yet perform with laboratory precision. A wide selection of thermocouples and extension arms permits adaptation to many types of service. For complete details and prices, send for Bulletin No. 4257. Illinois Testing Laboratories, Inc., Room 517, 420 N. LaSalle Street, Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

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You get your money's worth when you buy BMC Pressure Lock Wrenches. For just a few cents more you can get this extra-value, six-in-one tool ... it's an adjustable pliers, pipe wrench, locking clamp, gripping tool, monkey wrench, and hand vise. There is a BMC Wrench of the right size and pressure for your jobs: No. 7 — ⅞" Jaw, $2.29; No. 9 — 1" Jaw, $2.59; and No. 11 — 1½" Jaw, $4.89. Red plastic or steel handle grips optional.

Write for name of nearest BMC Distributor

BMC MANUFACTURING CORPORATION, Binghamton, N. Y.

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True Solutions
Colloidal Suspensions

2 to 20 Times Faster!

COWLES ULTRA-FAST DISSOLVER

The Cowles Company INCORPORATED 112 TRACKSIDE, CAYUGA, N. Y. Associates: Alexander Fleck, Ltd., Ottawa, Ont.

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Why Well Known Electrical Appliance Manufacturers' Demand "COMPO" FOR SELF ALIGNING MOTOR BEARINGS

BOUND BROOK OIL-LESS BEARING COMPANY
BOUND BROOK, N. J. ESTABLISHED 1883
BEARINGS · BUSHINGS · WASHERS · PARTS

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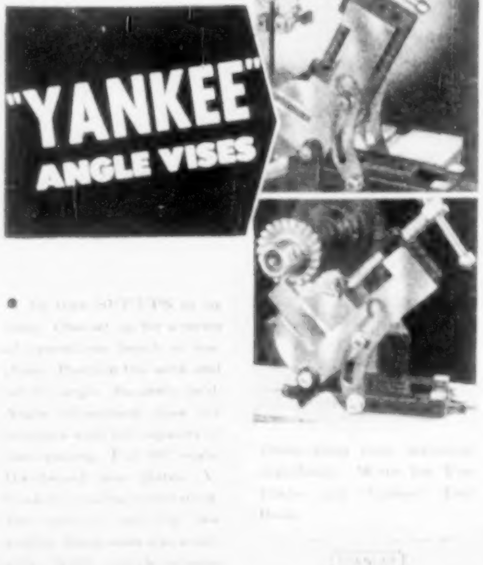


NORTH BROS. MFG. CO.

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Drill Hardened Steels without Annealing –

You Harden It - We'll Drill It with "HARDSTEEL"

BLACK DRILL COMPANY
Division Black Industries
1378 East 222nd St. • Cleveland 17, Ohio

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Save TIME · LABOR · DOLLARS

Brookfield SYNCHRO-LECTRIC Viscometer

TEST STUDY CONTROL VISCOSITY

As Simply, Quickly, Easily as Taking Temperature

Just a flick of switch then read the Brookfield dial, and you have your viscosity determination in centipoises. The whole operation, including cleaning up, usually is accomplished in less time a minute.

Available in a variety of models suitable for extremely accurate work with a wide range of materials, both Newtonian and non-Newtonian, the Brookfield Viscometer is portable and plugs in any A.C. outlet — can be used in lab, plant, or both.

Write today for fully illustrated 8-page catalog.

**NEW!** Two motors and exclusive counterrotating action make new Brookfield Laboratory Mixer quick, most effective on market. Creates annular flow, provides simultaneous shearing, and stops messy splashes. Write for descriptive brochure "M".

Brookfield ENGINEERING LABORATORIES INC.
STOUGHTON, MASS.

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*Guaranteed to save*

**TIME, WORK AND CASH**

"The tougher the job, the tougher the tools have gotta be—for me that's RIDGID."

RIDGID's guarantee means no pipe wrench housing expense—at all, ever

● Workers everywhere like the work-saver features that make RIDGID the world's favorite. Housing is guaranteed against breakage or distortion. Adjusting nut spins easily in all sizes 6" to 90". Handy pipe scale on hookjaw. Instant-action non-slip, non-lock jaws. Powerful comfort-grip I-beam handle with flared end that won't let your hand slip off. RIDGID save your time and money. Buy them at your Supply House.

RIDGID
WORK-SAVER PIPE TOOLS
THE RIDGE TOOL CO. • ELYRIA, OHIO

IEN-1478

VENTILATING . . Motor driven fan, bracket mounted for equipment cooling

Source: TRANSAIRE MFG. CO.
1922-27 Wallis St., Philadelphia 10, Pa.

IEN-1479

CONNECTOR . . Armored cable fitting for switch boxes, housings, condulets

Source: UNIMATIC CORP.
30-34 E. Centre St., Nutley, N. J.

IEN-1480

MANAGEMENT . . Series of data booklets on aspects of management policy and procedure

Four new booklets in the Management Decision Series cover a variety of topics based on recent conferences and research.

Bulletin 121, 16 pages, 10¢ plus 3¢ postage, deals with how the management of a small business can be profitably and economically operated.

Bulletin 122, 12 pages, free, gives 25 ways to be liked by our customers and how to maintain good customer relations.

Bulletin 126, 16 pages, 10¢ plus 3¢ postage, discusses selected charts and graphs.

Bulletin 127, 16 pages, 10¢ plus 3¢ postage, deals with the effective use of professional business services.

All Makers of Items and All Other Products Are Listed in THOMAS REGISTER — Descriptions — Ratings — See Page 19

IEN-1481

**HIGH VACUUM PUMPS for CONTINUOUS SERVICE**

F.J. STOKES MACHINE COMPANY 5501 TACK ROAD, PHILADELPHIA 33, PA.

F.J. STOKES MACHINE COMPANY

IEN-1482

NORTHERN HI-LIFT ELECTRIC HEAVY DUTY **HOISTS**

For heavy load capacities and rugged, heavy duty service NORTHERN HI-LIFT ELECTRIC HOISTS are designed and built to heavy duty crane type standards. They are especially suited for low headroom use—can be cab controlled if desired.

NORTHERN ENGINEERING WORKS, 2615 Atwater St., Detroit 7, Mich.

**NORTHERN CRANES AND HOISTS**

IEN-1483

Habit Forming, Eh?

Once you buy Rapistan materials handling equipment, you'll be hooked for an exclusive process for conveyors, cranes and lift trucks. And Rapistan's gear, carefully engineered, comes out a winner, too! They'll outlast any ordinary gadgets, can't clog and work for years and years. Rapistan Gear! It's addictive! Write for free illustrated catalog.

The MATHER STANDARD CO., Inc.
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Rapistan MATERIAL flow EQUIPMENT

CONVEYORS • Power to Gravity, Portable to Permanent
CRANES • FORK TRUCKS • HAND TRUCKS

IEN-1484

NEW BAKER FORK TRUCK
Model F1

*Costs less to buy—*
Does more work per dollar—because of its
100% FUNCTIONAL DESIGN

- Greater Visibility
- More Comfortable to ride
- Easier to operate
- Interchangeable Uprights
- No-Play Controller
- Baker Built Motors
- Soft Touch Brakes
- Cushion Tires
- Worm-Drive Axle
- Wide Angle Steer
- All-Steel-welded Frame

LEARN HOW LITTLE THIS TRUCK COSTS!

BAKER INDUSTRIAL TRUCK DIVISION
of The Baker-Raulang Company
1226 West 80th Street • Cleveland 2, Ohio

Baker INDUSTRIAL TRUCKS

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WITH ALEMITE CENTRALIZED LUBRICATION

- Machines and use are equipped for lubrication. Cables work as usual.
- Provides a sufficient quantity of proper lubricant at the right time and in the right place.
- Prevents contamination and damage due to dirt, moisture, grease fittings and grease cups.
- Eliminates lubrication problems, improves operations.

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**ALEMITE**

*Alemite ALONE Combines All 3 in Lubrication*

1. EQUIPMENT 2. PROCEDURES 3. LUBRICANTS

IEN-1486

To help you take full advantage of more efficient machines and new materials, Brown & Sharpe engineers are constantly developing and trying new designs in cutters. In the development of the new low-cost, stress-corrected manufacturing in Brown & Sharpe cutter plant, provides in exhaustive proving ground. Modern Brown & Sharpe cutters have many features that perform highly efficient operations, obtain cost less in the long run. Brown & Sharpe Mfg. Co., Providence, R. I., U. S. A.

*We urge buying through the Distributor*

**BROWN & SHARPE** BS

IEN-1487

**Answer These QUESTIONS to YOURSELF**

1. Are you competitive price-wise?
2. Is your profit satisfactory?
3. Is 30% or more of your product's cost spent in material handling?

*Industrial* **CRANES**

**INDUSTRIAL EQUIPMENT CO.**
321 NORTH ADA STREET CHICAGO 7, ILLINOIS
Write for Catalog. Representatives in Principal Cities.
OVERHEAD CRANES • JIB CRANES • MONORAIL SYSTEMS • CONVEYORS

IEN-1488

VALVE . . Piston type pneumatic for adjustable air cylinder operation

Source: BECKETT-HARCUM CO.
1135-42 Wayne Road, Wilmington, Ohio



Basic design

The line

Bulletin 10

IEN-1489

BRUSHES . . Nylon bristle design for wall painting, stucco and kalsomine

Source: FULLER BRUSH CO.
3578-82 Main St., Hartford 2, Conn.

Eight wall brushes

The bristles

IEN-1490

TIME TELLS! Trabon has over 27 years of experience in engineering and installing automatic equipment.

ONE INDICATOR at the pump — assuring the proper measured amount is accounted for each point. SEALED — operates efficiently when Diesel under dust, dirt, water, or grease.

Trabon has one set of equipment for any type of lube machine. Write today for Engineering Data.

Trabon

OIL AND GREASE SYSTEMS

IEN-1491

**ALLEN**

Hex-Socket Screws in *STAINLESS STEEL*

Available from Distributors' Stock

Now heat-treated, 18-8 stainless steel hex-socket set screws and socket head cap screws, NC threads are now standard and quickly obtainable from your Allen Distributor.

**HEX-SOCKET SET SCREWS:** Thirty-three popular sizes, cup point, now standard.

**SOCKET HEAD CAP SCREWS:** Thirty-eight popular sizes, flat point, now standard.

WARNING

Allen-Type screws aren't necessarily Allen-Made. Look, questions "Properly Equipped" Allen Head screws in the stock and other. See.

Other sizes, threads, points, and types of stainless steel are also obtainable on special order.

**ALLEN** MANUFACTURING CO. ALLEN HEAD
Hartford 2, Connecticut, U.S.A.

IEN-1492

It was hard. But now there's an easy way to get rid of those frozen Dunham Unit Heaters and sparkle corners. Move cold, unused, usable corners into more productive—and more profitable—space.

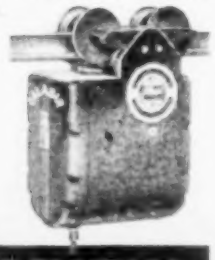
Dunham makes a complete line of heaters—horizontal and vertical discharge and cabinet models. There's a size and type exactly suited to your particular problem. Write today for complete information.

**DUNHAM**

IEN-1493

**LOADS UP TO 5 TONS ON HOISTS OR CRANES**

HERE'S SMOOTH STARTING TRACTOR POWER for propelling hoists on monorails and cranes. The compact calabar Cycloid Fluid Tractor starts slow, smoothly, without jerking or swinging the load. It's applicable on floors, tipped track, travels at speeds ranging from 30 to 200 FPM on curves and on low and passages. Heavy bearings and all wear parts are hardened and precision ground. Unit power is non-sparking. Write for Engineering Data.



CALABAR CORP.

calabar **FLUID TRACTORS**

IEN-1494

# BUILDING DOLLARS GO FARTHER

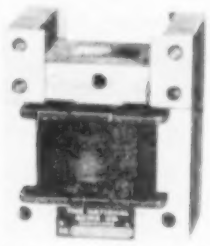
1. [illegible]
2. [illegible]
3. [illegible]

WRITE FOR THE COMPLETE MONEY-SAVING STORY

ARMCO DRAINAGE & METAL PRODUCTS, INC.
1920 Curtis Street, Middletown, Ohio

IEN-1495

# QUICK-ACTING! ACCURATE!



SLIDE-FASTENER MANUFACTURER SAYS **NAMCO** IS ONLY SOLENOID DEPENDABLE FOR HEAVY DUTY

Complete standard range of Namco "Stellite"-Welded Solenoids is illustrated and tabulated in Engineering Bulletin EM-46A. Ask for your copy.

ELECTRICAL MANUFACTURING DIVISION
THE NATIONAL ACME CO.
CLEVELAND, OHIO

IEN-1497

SHEARING . . . Automatic line cuts and piles sheets from metal coil

Source: [illegible] CO
[illegible] Ave., Salem, Ohio

IEN-1498

INDEXING . . . Slide equipped base, tail center and index collet head

Source: H. B. ROUSE & CO
2216 N. Wayne Ave., Chicago 14, Ill.

IEN-1499

IEN-1500

# Jacketed Pipe and Fittings

NOW AVAILABLE IN SPECIAL METALS FOR HANDLING CORROSIVE MATERIALS

H & B Jacketed Pipe and Fittings which have been used for years in processing [illegible] are now available in carbon welded steel or stainless steel of required for handling corrosive materials. In low pressure equipment where the measurement of a uniform temperature on the process pipe is essential, an H & B Jacketed Pipe System will assure dependable, economical processing. We welcome inquiries on the handling of rubber substitutes or [illegible] materials. Illustrated Bulletin [illegible] will be sent on request.

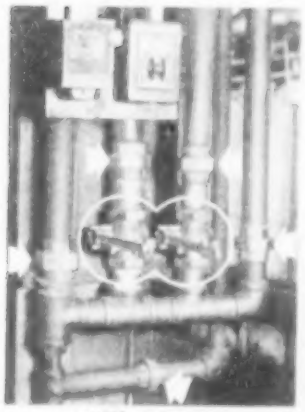
HETHERINGTON & BERNER INC.
[illegible] KENTUCKY AVENUE • INDIANAPOLIS 7, INDIANA

IEN-1501

*Last 4 Times Longer!*

ROCKWOOD Ball Type VALVES

provide efficient time saving valves on operating lines for annealing furnaces at Revere Copper and Brass Incorporated.



CHECK THESE 3 OUTSTANDING FEATURES

ROCKWOOD SPRINKLER CO.
40 HARLOW STREET WORCESTER 2, MASS.

IEN-1502

**famco** OFFERS A COMPLETE LINE OF

# 15" DRILL PRESSES

Today's Best Drill Press Value

Here Are a Few of Many Famco Features:

- [illegible]

FAMCO MACHINE CO. • 1303 18th ST., Racine, Wisconsin

**famco** COST CUTTING **machines**

ARBOR PRESSES • DRILL PRESSES • POWER PRESSES • FOOT PRESSES
POWER AND FOOT SQUARING SHEARS

▼ REPRINT—Identify by IEN-1503 if you write the maker ▼

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▼ REPRINT—Identify by IEN-1505 if you write the maker ▼

▼ REPRINT—Identify by IEN-1506 if you write the maker ▼

## CLEANING . . Pneumatic dip tank rides work into and out of solution

Source: HOPKINS EQUIPMENT CO.
44-48 Maple Ave., Hatfield, Pa.

Dip-O-Matic . . . [illegible] . . . Equipment . . . [illegible]

▼ REPRINT—Identify by IEN-1507 if you write the maker ▼

## STORING . . Drill rod rack for standard 3 ft. lengths of the rod

Source: HILL MACHINE CO.
1030 Mulberry St., Rockford, Ill.

Drill rod ends . . . [illegible] . . . The assembly . . . [illegible]

▼ REPRINT—Identify by IEN-1508 if you write the maker ▼

## LUBRICATING . . Specialized lubricants guide to oils, liquid greases and greases for definite uses

[illegible]

If you are having lubrication trouble with a machine or oil [illegible] . . . [illegible] . . . Page 90

▼ REPRINT—Identify by IEN-1509 if you write the maker ▼

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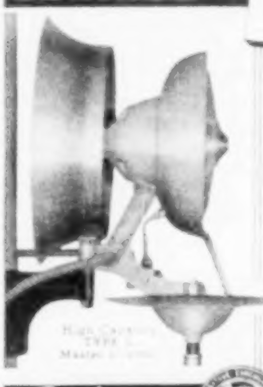
IEN - 1513


# AUTOMATIC HUMIDITY CONTROL

The Bahnson HUMIDIFIER

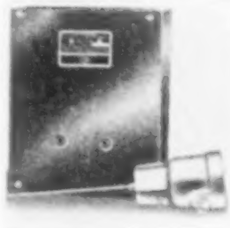


Bahnson System
AIR CONDITIONING ENGINEERS
THE BAHNSON CO. WINSTON-SALEM, N. C.


IEN - 1516

## CONTROL . . Electronic equipment maintains safe gas burner operation

Source: BRISTOL CO.
Griggs & Kelsey Sts., Waterbury 91, Conn.





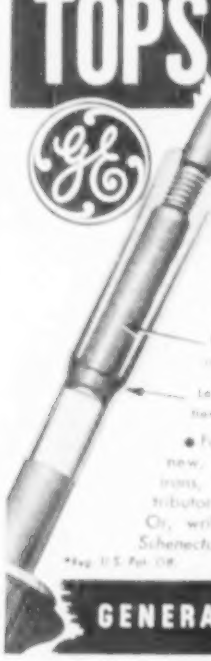
**Pyrotrol** ...

**The equipment** ...

**Bulletin W1816** ...

IEN - 1519


# TOPS IN TIPS



SOLDERING IRONS
For Industrial Use

Durable, calorized copper tip—non-freezing, easy to replace.

Excellent heat conductivity from heater to tip by machined, calorized tip seat.

Famous, long-lasting Calrod* heater for rapid, continuous flow of heat.

Low heat loss with dead-air-space insulation between conductor and shell.

● For complete information on this new, outstanding line of soldering irons, ask your G-E Apparatus Distributor for free Bulletin GEA-4519. Or, write *General Electric Company, Schenectady 5, N. Y.*

*Reg. U.S. Pat. Off.

GENERAL ELECTRIC


IEN - 1514

Speer
CARBON COMPANY
ST. MARYS, PENNA.

CHICAGO • CLEVELAND • DETROIT
MILWAUKEE • NEW YORK • PITTSBURGH


IEN - 1517

## BELLOWS . . Light gage metal made in 3 to 30 in. inside diameter

Source: STANDARD THOMSON CORP.
214-18 S. Main St., Dayton 2, Ohio

**Fab. Corp.** ...

**Materials** ...

IEN - 1520

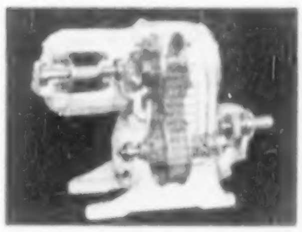
"Burnout from Overloading or Overheating...
NOT THIS MOTOR,
It's Permanently Protected with a
KLIXON PROTECTOR"

SPENCER THERMOSTAT
202 FOREST ST., ATTLEBORO, MASS.
KLIXON


IEN - 1518

IEN - 1521


ANY SPEED
ANY TIME
ANY LOAD
●
1 to 10,000 RPM
¼ to 50 h.p.



*U.S. VARIDRIVE MOTOR*

Changes speeds—all in one compact unit

*U.S. ELECTRICAL MOTORS Inc.*

REQUEST FOR VARIDRIVE BULLETIN

*Free Bulletin*

IEN-1522

# The "MASTER" Line

OF MATERIALS HANDLING EQUIPMENT

"Engineered to Save You Money"

*Get This Latest L-S Bulletin*

*Featuring Electric Power Fork Trucks*

CUT COSTS WITH The "MASTER" Line

**LEWIS-SHEPARD PRODUCTS INC.**

142 Walnut St., Watertown 72, Mass.

Midwest Plant: Crawfordsville, Ind.

*Representatives in Principal Cities*

IEN-1523

# Ruggedly equal to Heavy Duty Heat Treating

$825.00

# HUPPERT MODEL 16 FURNACE

Heat Ranges

K. H. HUPPERT CO.

6856 Cottage Grove Ave.

CHICAGO 37 ILLINOIS

IEN-1524

IEN-1525

BENDING ... Hand operated machine takes 16 gage steel to 24 in. in width

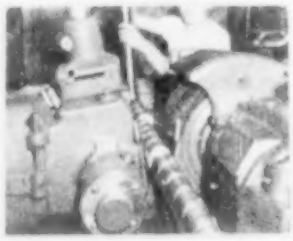
Source: BERKEOT PRODUCTS INC.

IEN-1526

POLISHING ... Rotating brush finishes work in a centerless grinder

Source: OSBORN MFG. CO.

5401 Hamilton Ave., Cleveland 14, Ohio



IEN-1527

CONSTRUCTION ... How to select power excavators and coordinate hauling equipment for economical operation

IEN-1528

# Don't take less than a *Leach* for Unsurpassed Performance

LEACH RELAY CO.

IEN-1529

# *Why does an* ARIDIFIER

REMOVE 92% OIL, WATER AND DIRT FROM GAS AND AIR LINES?

**STUDY EXPLODED VIEW FOR ANSWER**

Four multi blade rotors revolve at high speed in opposite directions under impact of air movement through non-aligned rotor spaces. Moisture, dirt and other foreign matter which collect on rotor blades are thrown out of air stream by centrifugal force to side of housing, and pass into drain.

*Logan* ENGINEERING CO.

IEN-1530

PORTER-CABLE *Speedmatic*

**Portable Saw and Radial Arm**

**Combination** — *complete, only* **$313**

- Saves the cost of two separate saws
- For all maintenance and construction work
- Portable saw attaches to arm in a moment
- Makes every kind of cut with positive accuracy
- Quick, easy adjustments for bevels and depths
- America's finest precision power saw

Speedmatic Portable Saw—

Model K75 ... Cat. $123.

Speedmatic Radial Arm—

Model for K75. Complete—$190.

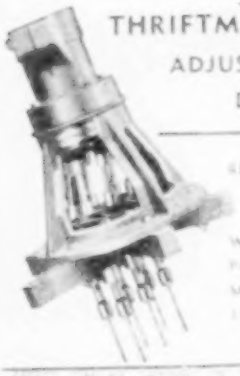
See the Speedmatic at leading Mill Supply, Hardware or Lumber dealers. Write for complete catalog and name of dealer nearest you.

**PORTER-CABLE MACHINE CO.**

2683 N. Salina St., Syracuse, N. Y.

*Makers of Speedmatic and Guild Electric Tools*

IEN-1532



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RETURNS $265.00 INVESTMENT IN LABOR SAVINGS ALONE!

Well-known makers of All Purpose Power Saws regards THRIFTMASTER paid for itself in first 173 hours operation

PRICED FROM $179.00

**THRIFTMASTER PRODUCTS CORPORATION**
1040 N. Plum St., Lancaster, Pa.
also makers of
**DORMAN AUTOMATIC REVERSE TAPPERS**
4 Sizes, Friction & Positive Drives · Capacity 1/2-20 to 3" in Steel

IEN-1533

More Hands Reach For

# OHMITE

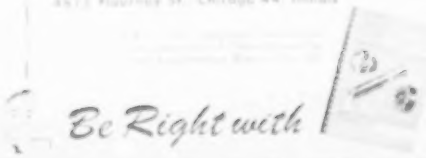
POWER RHEOSTATS

...than for all Other Makes Combined!

HERE'S WHY THEY'RE INDUSTRY'S FIRST CHOICE

ENGINEERS, designers, technicians ... most who select the power rheostats for industry ... know that Ohmite rheostats are smoother to operate and give closer, more exact control ... and longer life. They know, also, the reasons for Ohmite's permanently lubricated glass fiber bearings ... the overlapping contacts ... the all-wire construction ... the exclusive patented Ohmite Ceramic Resistor ... the wide range of Ohmite power rheostats ... the wide range of Ohmite power rheostats ... and many other advantages.

OHMITE MANUFACTURING CO.
4512 Flournoy St., Chicago 44, Illinois



*Be Right with*

# OHMITE

RHEOSTATS • RESISTORS • TAP SWITCHES

IEN-1535

HANDLING . . Collapsible steel box, pallet mounting, for intra-plant use

Source: FAE WELD CORP.
Richmond & Pickwick Sts., Philadelphia 24, Pa.

Bruno O. Tadini

IEN-1536

PULLING . . Ratchet operated jack rates 20 ton, has lock link hook ends

Source: TEMPLETON, KENLY & CO.
1012 S. Central Ave., Chicago 44, Ill.



Standard

IEN-1537

LUBRICATING . . Pen type oiler, hollow needle point on plastic barrel

Source: GAUNT INDUSTRIES
3519-23 N. Broadway, Chicago 13, Ill.

Hypo-Oiler

The barrel

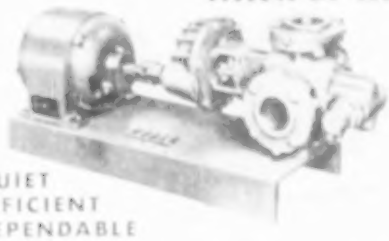
IEN-1538

ASHWORTH BROS., INC.
METAL PRODUCTS DIV. • WORCESTER, MASS.

Sales Engineers located in

IEN-1539

# PUMPS for CLEAN LIQUIDS *thick or thin*



QUIET
EFFICIENT
DEPENDABLE

**ROPER** *Rotary Pumps*

GEO. D. ROPER CORP.
Blackhawk Park Avenue
ROCKFORD, ILLINOIS

IEN-1540

NOW! A wiping tissue 100% grit-free

AUTOMATIC DISPENSER PACKAGE

Kimberly-Clark Corporation,
Neenah, Wisconsin

IEN-1541

● There's an ARO Air Screw Driver and Nut Setter in the size and speed for a broad range of tough assembly jobs! Specially designed for high production ... improved workmanship ... fewer nut costs ... less work spoilage ... fewer broken bits ... longer tool life. Model "10C" (above) for No. 2-56 screws or 5/16" nuts ... 2,100 R.P.M. ... lever clutch ... adjustable clutch. Write for bulletin. See your nearest industrial distributor. The Aro Equipment Corporation, Bryan, Ohio. Aro of Canada, Ltd., Toronto.

**ARO**
AIR TOOLS

IEN-1542

IEN-1543

IEN-1544

IEN-1545

THERMOSTAT . . Double bulb assembly controls heat to outdoor temperature

Source: BARBER-COLMAN CO.
155 Loomis St., Rockford, Ill.

IEN-1546

CASTER . . Cold forged design, 3 to 6 in. wheels, 175 to 650 pounds

Source: RAPIDS-STANDARD CO.
342 Rapistan Bldg., Grand Rapids 2, Mich.

IEN-1547

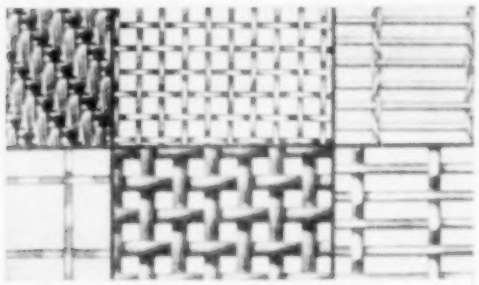
TRANSFORMER . . Connection diagrams show application for air cooled transformer in power lines

IEN-1548

IEN-1549

IEN-1550

IEN-1552



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Industries of all types use Wissco and Calwico Wire Cloth for longest life and lower annual cost. Wide selection of weaves and meshes, in all commonly used metals, to withstand abrasion, corrosion or high temperature. We are ideally equipped to handle large volume orders. Prices on request.

FREE BOOK . . . profusely illustrated . . . gives wire sizes, meshes and weights. In the East, write Wickwire Spencer Steel . . . in the West, The California Wire Cloth Corp. Branches in principal cities.

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CFI
DIVISIONS OF THE COLORADO FUEL AND IRON CORPORATION, DENVER, COLORADO

IEN-1553

*Job time records are VITAL—*

# CALCULAGRAPH

FIGURES THEM
ACCURATELY, AUTOMATICALLY

**COMPUTES—**
TOTAL ELAPSED TIME
**PRINTS—**
STARTING TIME
FINISHING TIME
TOTAL TIME

### One CALCULAGRAPH figures and prints cards for entire shop

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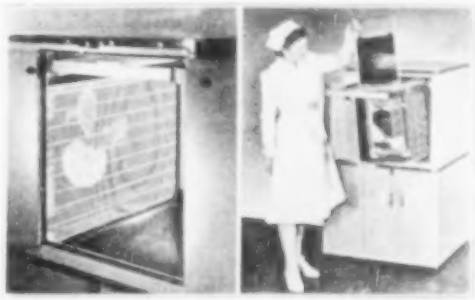
**COMPANY · INCORPORATED**
HARRISON · NEW JERSEY

SINCE 1892—STANDARD EQUIPMENT IN THE TELEPHONE INDUSTRY THROUGHOUT THE WORLD

IEN-1555

## DRYING . . Blower equipped cabinet recirculates hot air to dry photo films

Source: GENERAL ELECTRIC X-RAY CORP.
4555-57 Electric Ave., Milwaukee 14, Wis.



Certain Dryer . . .

The motor-driven fan . . .

IEN-1556

## STRAPPING . . Scotch plastic tape straps products for handling, shipping

Source: MINNESOTA MINING & MFG. CO.
902 Fauquier Ave., St. Paul 6, Minn.

Typical applications . . .

IEN-1557

**If you pipe it...there's a Fairbanks® valve to control it**

Fig. 0236
UNION BONNET
Gate Valve

Thus . . . typical example of the outstanding design and engineering and sound construction that are built into every Fairbanks Valve. Years of experience in meeting all kinds of valve requirements for industry have given Fairbanks Engineers a storehouse of knowledge in controlling the flow of water, steam, gas, oil, chemicals, etc. Consult them without obligation.

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VALVES · GART & FIC UNIONS · TRUCKS · CASTERS

IEN-1558

**Machines "THRIVE" on MULTI-PURPOSE Anti-Scoring LUBRICANT**

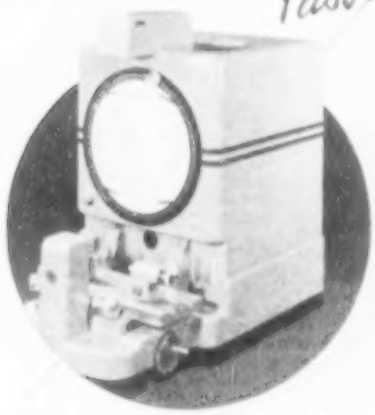
# 15 DROPS

Keep A Lathe Humming

**CHICAGO MANUFACTURING & DISTRIBUTING CO.**
1938 W. 46th STREET CHICAGO 9, ILLINOIS

IEN-1559

For Complete Inspection under Magnification—*Fast.*



the Kodak CONTOUR PROJECTOR

SHOWS contours, of course, surface details . . . deep, blind holes

▶ Write for full details of this moderately priced precision instrument for fast inspection.

EASTMAN KODAK COMPANY
Industrial Equipment Sales Division
Rochester 4, N. Y.

Kodak
TRADE MARK

IEN-1561

## JENKINS GIVES YOU . . .

*Super Toughness*

In the

"TROUBLE ZONE"

WRITE FOR COMPLETE DETAILS

ASK FOR THIS FOLDER

• The "E-B" Jenkins Fig. 2364 is designed to checkmate trouble in the "trouble zone" and cut maintenance to a new low.

The super-tough MONEL metal seat rings hold seat to the accessible, easily replaced bronze wedge. Contouring both parts is the best wearing combination. Of best metal, reduce care.

Write for full information now. See why it's your best buy for tough valve conditions. Ask your Jenkins distributor for Form No. 101. Or write: Jenkins Bros., 80 White St., New York 13.

**JENKINS VALVES**

IEN-1562

WHEELER T-12 SLIMLINE FIXTURE

• BETTER GRIDS FEATURES

Distributed Exclusively through Electrical Wholesalers

**Wheeler REFLECTOR COMPANY**

Lighting Equipment Specialists Since 1881

IEN-1563

IEN-1564

MOTOR CONTROL . . Central assemblies to group machine control in multiple

Source: WESTINGHOUSE ELECTRIC CORP.
306 Fourth Ave., P. O. Box 1017, Pittsburgh 30, Pa.

New unit assembly

IEN-1565

FASTENING . . Pull type rivet requires access to only one work face

Source: HUCK MFG. CO.
2478-82 Bellevue Ave., Detroit 7, Mich.

Five new designs

IEN-1566

HEATING . . Radiant heating for buildings the subject of revised 500-page practical textbook

New Second edition

IEN-1567

for GREATEST DEPENDABILITY and EFFICIENCY in metered pressure pumping of

**SULPHURIC ACID**

at all concentrations

• NO STUFFING BOX OR RUNNING SEAL
• POSITIVE DISPLACEMENT PISTON MEASUREMENT
• FLOW RATE ADJUSTABLE WHILE IN OPERATION
• MANUAL OR AUTOMATIC CONTROL

**Lapp PULSAFEEDER**

PISTON-DIAPHRAGM CHEMICAL PROPORTIONING PUMP

IEN-1568

**IMPORTANT NEW FACTS ON WIRE AND PIPE MARKING**

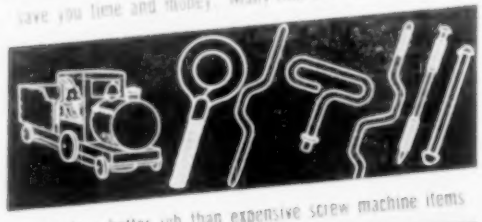
**E-Z CODE** SELF-ADHESIVE MARKERS

Pastorie Lithocraft Co., Dept. IEN-Z, 600 E. 2nd St., Los Angeles 54, Calif.

IEN-1569

In all industry, Townsend cold headed parts and fasteners

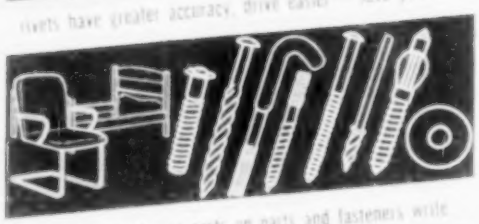
save you time and money. Many find our low cost, accurate



parts do a better job than expensive screw machine items

and can be obtained quicker. Townsend solid and tubular

rivets have greater accuracy, drive easier — save you time.



For help in reducing costs on parts and fasteners write

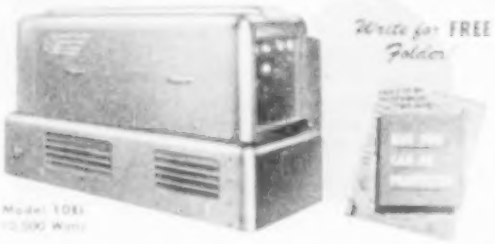
**Townsend**

COMPANY — ESTABLISHED 1916

New Brighton, Pa.
Chicago 38, Ill.

IEN-1571

# One power failure may cost you more than an ONAN Standby ELECTRIC PLANT!




Model 10E1
10,000 Watts

Onan

D. W. ONAN & SONS INC.
ROYALSTON AVE. • MINNEAPOLIS 5, MINN.

IEN-1572

# TOOL and DIE USERS!

## Pangborn "Hydro-Finish"

### Can Help You...

**In the Tool Room,** Hydro-Finish simplifies the manufacture and maintenance of tools, dies and molds. It reduces metal removal, hand work and produces a smaller, cleaner, free from directional grinding lines.

**In the Production Line** Hydro-Finish eliminates many tedious finishing operations. It reduces cost and time required in finishing. It improves finishes on parts made from metal stampings.

It can be used for deburring, surface finishing and lubricants in cutting, screwing, tapping and drawing operations, cleaning and finishing of grinding lines, cleaning and finishing for assembling and for cleaning, deburring, tapping, threadmaking and finishing of parts made from zinc, gravity castings, aluminum castings.

From one time Hydro-Finish, you have the choice of Write for Hydro-Finish to Pangborn's Chicago Office, Pangborn Blast Equipment Co., Rock Island, Ill.

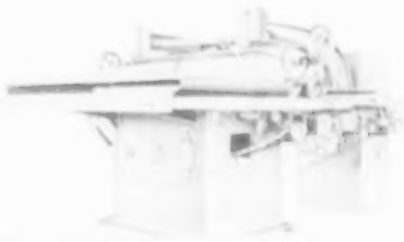
PANGBORN

Pangborn
BLAST CLEANS CHEAPER
with the right equipment for every job

IEN-1574

DRYING . . . Dielectric equipment to dry the glue in wood assemblies

Source: C. M. DIEHL MACHINE WORKS INC.
1502 S. Walnut Ave., Walnut, Ind.



New assembly

IEN-1575

ELEVATOR . . . Motor driven platform and frame for wood dipping operation

Source: SERVICE CASTER & TRUCK CORP.
542 N. Brownwood Ave., Albion, Mich.

New assembly

The elevator

IEN-1576

# CANNON PLUGS

UA SERIES
(Ultimate Audio Connectors)
THREE 15-AMP. CONTACTS

CANNON ELECTRIC

IEN-1577

# SINK DRAIN-TRAP BENDS PRODUCED 2½ TIMES FASTER

WITH PINES Automatic BENDING MACHINE

Write for Free Literature

PINES MANUFACTURING CO. INC.
"Specialists in The Industrial Equipment"

IEN-1578

"I LIFT ONLY 80 LBS. OF THIS HEAVY 400 LB. LOAD"

IMMEDIATE SHIPMENT

Sterling WHEELBARROWS

IEN-1579

OUT OF 1001 TEST TUBES

FORWARD LOOKING IS THE WORD

IEN-1580

# Spray Nozzles

## ALL TYPES . . . ALL SIZES

Select the spray nozzle you need from a complete range of sizes in types for every industrial application. Every nozzle is precision made to assure accuracy in the most exacting spray operation. These nozzles and their application are described in detail in General Catalog 22 and Pneumatic Atomizing Catalog 23. Get these two useful catalogs now for handy reference.

SPRAYING SYSTEMS CO.
*Engineers and Manufacturers*
3208 RANDOLPH ST. • BELLWOOD, ILLINOIS
Suburb of Chicago

IEN-1583

## DRIVE . . Electric brake for motors, frame sizes 203 to 365

Source: WARNER ELECTRIC BRAKE MFG. CO.
P. O. Box 518-A, Beloit, Wis.

New assembly of the company's ... electric brake, previously described ..., is intended for use on electric motors. ...

Application ...

IEN-1587

## We have the answer for stopping damage to wood caused by ROT and TERMITES

At vulnerable points on your next building or remodeling job, use Wolmanized Pressure-Treated Lumber.

Wolmanized Lumber *actually kills rot and termites*. It's clean, odorless, paintable ... and service records prove that it lasts 3 to 5 times longer than untreated wood.

The extra cost of using Wolmanized Lumber is *less than the labor cost alone of replacing prematurely failing, untreated wood*. Find out more about this money-saving, longer-lasting treated lumber.

THIS FREE BOOKLET SHOWS YOU WHERE AND WHY TO USE WOLMANIZED LUMBER

Write for your copy today

AMERICAN LUMBER & TREATING CO.
332 S. Michigan Ave. • Chicago 4, Illinois

IEN-1581

## DEPENDABLE CONNECTIONS FOR COPPER TUBING

Wherever you use copper tubing, make connections quickly and dependably with Dresser "Copr-Tube" Fittings. ...

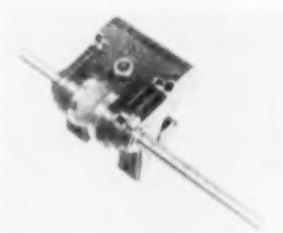
## DRESSER "COPR-TUBE" FITTINGS

Dresser Manufacturing Division ...

IEN-1584

## LATHE TOOLS . . Carriage stop with micrometer adjustment head

Source: ELLWOOD PRODUCTS CO.
3047-51 E. Grand Blvd., Detroit 2, Mich.



List price ...

IEN-1585

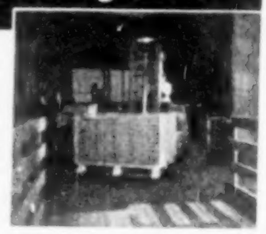
## RESEARCH . . Current work in progress reviewed in book on engineering college research

College of Engineering
State University of Iowa, Iowa City, Iowa

Some 3,000 research projects ...

IEN-1588

## Pittsburgh CARGOTAINERS Speed Operations and Reduce Handling Costs



1. CARGOTAINER ... CARGOTAINERS ...

2. CARGOTAINERS ...

3. CARGOTAINERS ...

For further information on Pittsburgh CARGOTAINERS, write Pittsburgh Steel Products Company, Department IEN, ... Building, Pittsburgh ..., Pa.

## CARGOTAINERS
by
Pittsburgh Steel Products Company
Subsidiary of
Pittsburgh Steel Company

IEN-1582

## MANUFACTURERS LARGE OR SMALL

## INDUSTRIAL WHEELERS

. . . SERVE THEM ALL!

## MINNEAPOLIS-MOLINE
MINNEAPOLIS 1, MINNESOTA

IEN-1586

## FAST FINISH BAKING

## Despatch R-S FINISH BAKING OVEN

...

DESPATCH OVEN CO. Established in 1902

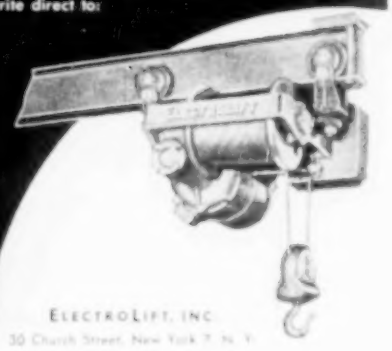
Paint Finishing, Dehydrating, Curing, All Industrial and Laboratory Applications

337 DESPATCH BLDG. MINNEAPOLIS 14, MINNESOTA

IEN-1590

**ELECTROLIFT** *speeds production*

because you can move materials much quicker. Easy one-man operation handles loads up to 6 tons . . . frees manpower for other assignments. This worm-drive electric hoist performs quietly and economically. Savings accumulated with an ElectroLift will more than pay for its installation. Complete details on the model that suits your capacity, speed and plant layout needs will be supplied by your nearby ElectroLift representative, listed in the classified telephone directory. Or write direct to:

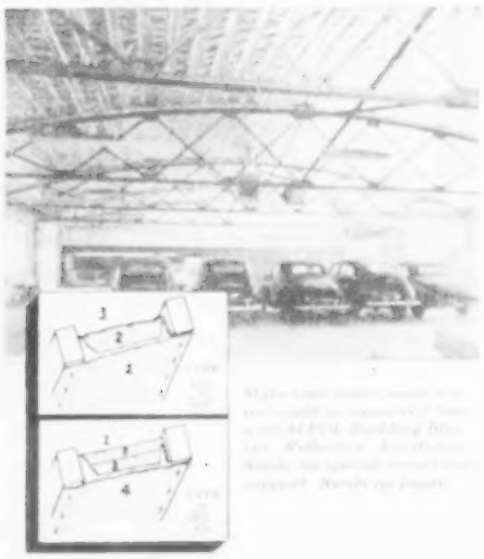


ELECTROLIFT, INC.
30 Church Street, New York 7, N. Y.

IEN-1591

*Keep* COSTLY HEAT *out of* ROOF TRUSSES *and* UNUSED AREAS *with*

ALFOL REFLECTIVE INSULATION



Use ALFOL Insulation to seal off either extreme!

**ALFOL INSULATION**

First in Reflective Insulation

REFLECTAL CORPORATION
COMMERCE BLDG. • NEW YORK 17, N. Y.

IEN-1593

TESTING . . Count rate meter measures rate of nucleonic radiation

Source: RADIO CORP. OF AMERICA
1941 Front & Cooper Sts., Camden, N. J.

IEN-1594

DRILLING . . Portable drill feeder clamps on work, holds and feeds drill

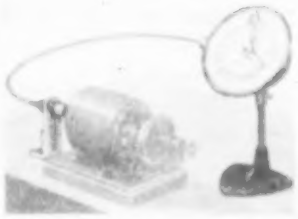
Source: SAFEWAY ENGINEERING
49 Industrial St., Tinley Park, Ill.

Speeds drilling
protects operator

IEN-1595

COUNTING . . Dial type unit counts winding turns and fractions

Source: PRODUCTION INSTRUMENT CO.
700-10 W. Jackson Blvd., Chicago 6, Ill.



IEN-1596

To maintain maximum accuracy in drilling operations, use the bushing that's precision made for the job—use Acme. Write for catalog.

**Acme Industrial Company**

*Makers of Hardened and Ground Precision Parts*
211 N. LAFLIN STREET • CHICAGO 7, ILLINOIS

THE SERVICE SHOP TO INDUSTRY FOR MORE THAN 25 YEARS

IEN-1597

Burst Pressures *up to 6000 psi*

new flexible 2-ply rayon cord hydraulic hose assemblies (without any metal braid)

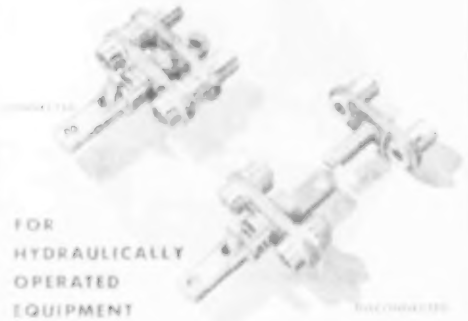
*for* all hydraulic installations requiring assemblies of great flexibility, particularly welder applications where shorting is a hazard to be considered.

The J. N. FAUVER Co., Inc.

IEN-1598

**Aeroquip**

**"BREAKAWAY" COUPLING**



FOR HYDRAULICALLY OPERATED EQUIPMENT

AEROQUIP CORPORATION
JACKSON, MICHIGAN

IEN-1599

**Easy**

• TO INSTALL
• TO CONNECT

A-C Dry-Type Transformers

ALLIS-CHALMERS, 900A, SO. 70, ST.
MILWAUKEE, WIS.

**ALLIS-CHALMERS**

IEN-1600

IEN-1601

IEN-1602

IEN-1603

TESTING . . Temperature indicators designed to melt at given temperatures

Source: TEMPIL CORP.
132 W. 22nd St., 3rd Fl., New York 11, N. Y.

IEN-1604

ADHESIVE . . Thermosetting resin bonds on contact, cures at room heat

Source: ARMSTRONG PRODUCTS CO.
200 N. Broadway, Barker, Ind.

IEN-1605

SAWING . . Flexible hack saw blade in standard hand sizes and tooth pitch

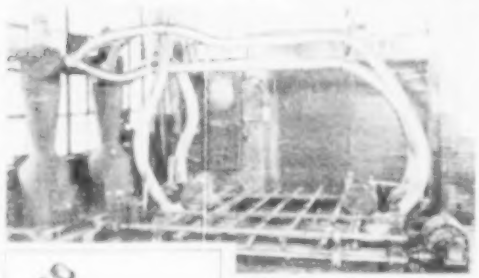
Source: CLEMSON BROTHERS INC.
18-22 Cottage St., Middletown, N. Y.

IEN-1606

IEN-1607

IEN-1608

IEN-1609

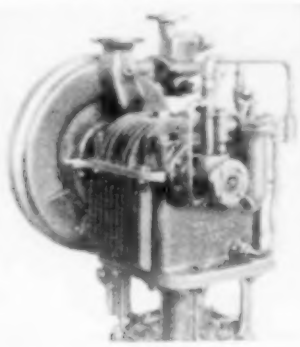


Over 18,000 Torit Dust Collectors now in use

TORIT Dust Separators trim costs on this plate trimming machine

TORIT MANUFACTURING CO.
286 Walnut St., St. Paul 2, Minn.

IEN-1610



## Pumps oil at 5800 rpm

IMO PUMP DIVISION of the
DE LAVAL STEAM TURBINE CO.
TRENTON 2, NEW JERSEY

IEN-1611

# Ageproof VELLUM

*for Better Drawings for Better Prints*

EUGENE DIETZGEN CO.

DIETZGEN
DRAFTING, SURVEYING & PRINT-MAKING MATERIALS, INSTRUMENTS & EQUIPMENT

IEN-1613

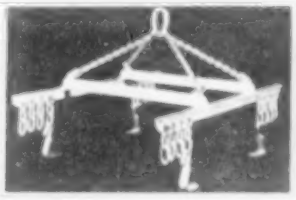
HANDLING . . Sanitary container takes two 30 gallon cans for refuse

Source: BENNETT MFG. CO.
35-39 Railroad Ave., Albany, N. Y.

IEN-1614

HANDLING . . Adjustable cradle for metal sheets in boxes or skids

Source: WOODHOUSE CHAIN WORKS
249-53 Third St., Trenton 7, N. J.



IEN-1615

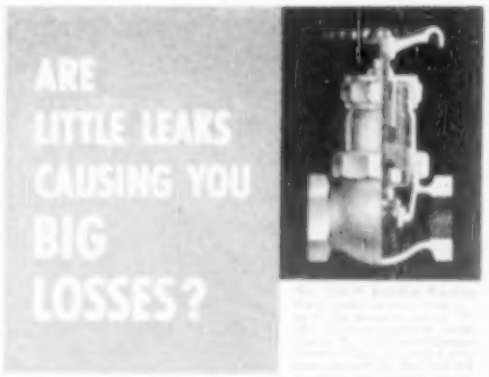
MOTOR . . Splash proof ac., ball bearing design, range of sizes

Source: STERLING ELECTRIC MOTORS INC.
5399-03 Telegraph Road, Los Angeles 22, Calif.

IEN-1616

Ohio Brass VALVES

IEN-1617




*Stop them with* SYLPHON PACKLESS VALVES

FULTON SYLPHON
DIVISION

IEN-1618

1. When nut is pulled up, metal locking ring flows into lock thread, wedging the lock and thread into a positive lock.
2. Once tightened for life, the non-wobbling locking ring does not loosen, even after locking off. Ring is retained by nut.
3. Vibration and shock will not work lock off—they cause ring to flow the locking ring further into the thread.
4. Roll, twist, wear and weather do not affect the lock.
5. Up to operating point of the metal, high temperatures do not lessen gripping power.
6. Crushed locking ring prevents passage of gas or liquids.

*Available in high, thin, cap or spanner designs*

An-cor-lox *Lock Nuts*

AN-COR-LOX NUTS • SHIMS • SHIM STOCK • STAMPINGS

IEN-1619

*Suppresses Dust with Water*

WHITING CORPORATION
15629 Lathrop Ave.
Harvey, Illinois

▼ REPRINT—Search by IEN-1620 ▼

SLIPS DO COUNT. About 20% of all compensation claims result from accidents on slippery floors.

You can stop this cause of painful, costly injuries, of lost man-hours and lowered production by a simple and inexpensive application of Ferrox.

Simply trowel this plastic abrasive composition on potentially danger spots (steps, walkways, platforms, washroom floors, wood, concrete or metal) and you have underfoot safety. Ferrox has proved the general purpose safety floor treatment. Material cure (adjustable) and dry in only 12hr. One gallon covers 40 square feet.

Take a walk around your plant now and let your feet tell you where Ferrox can save you both time and money. Save your time order today. $7.50 per gallon in 1 gallon cans, $7.25 per gallon in 5 gallon cans.

**AMERICAN ABRASIVE METALS CO.** 448 Cliff Street Irvington 11, N.J.

▼ REPRINT—Search by IEN-1621 ▼

**6 TO 1** ONE Indicator Plug Connects to any of SIX Thermocouple Jacks

MULTI-POINT PYROMETER INDICATOR

Accurate

Sturdy

Indicates temperatures of various applications.

Stocked in five temperature ranges.

Polarized jacks and plugs of thermocouple materials.

Internal compensation automatically for cold junction temperature changes and to prevent temperature recording slow coefficient.

WRITE FOR CATALOG SECTION 25K

**Thermo ELECTRIC CO.** FAIR LAWN, N.J.

▼ REPRINT—Search by IEN-1622 ▼

FORCE AUTOMATIC NUMBERING MACHINES

COLUMBIA
⅜" figure numbering machine

Write for catalog 1 on complete line of automatic self-inking dating and numbering machines.

**WM. A. FORCE AND COMPANY** INCORPORATED 64 WHITE STREET, NEW YORK 13, N. Y.

▼ REPRINT—Search by IEN-1623 ▼

PROTECTING . . Respirator and goggle to apply separately or in combination

Source: AMERICAN OPTICAL CO. 12-16 Mechanic Street, Southbridge, Mass.

Twin cartridges [illegible] the new respirator position of the combination [illegible] equipment. These [illegible] to protect the user against acid and organic vapors, [illegible] of organic vapors and all dusts, and metal fumes. Fine air is standard. Any of the [illegible] can be specified.

The respirator covers the user's mouth and nose. Fits up to the goggle, is held in place with our head which the goggle is secured with a head band. The face piece is molded rubber with a [illegible] edge to provide a snug leak proof fit. An exhalation valve that [illegible] the intake [illegible] the cartridge. The goggle can be [illegible]

▼ REPRINT—Search by IEN-1624 ▼

BROACHING . . Push type cutter for keyways has special tooth spacing

Source: KASE MACHINE CO. 15423 Buffalo Ave., Cleveland 19, Ohio

Type IK designates new design of the cutter in the company's Kleeny push broach to which the final few teeth are closely spaced for finishing action that will complete a keyway on a single pass. On a typical setup in cold rolled steel a keyway is cut ⅝ in. wide by ⅝ in. to depth at the side. [illegible] pass. Dimensional precision in this case is ±[illegible] in.

The cutter blade is [illegible] to the standard design previously described IEN-0616-19. Adjustment for cut depth is a part of the assembly. Other [illegible] are in the standard line.

▼ REPRINT—Search by IEN-1625 ▼

LIGHTING . . Planning kit to assist in design of lighting installation

Crouhall Ofg. Co. [illegible] Chicago 14, Ill.

"Mobile Planning Kit" comprises a set of three [illegible] [illegible] Lighting [illegible] of the company's Mobile Program. A [illegible] purpose [illegible] is pasted [illegible] a good [illegible] [illegible] the lighting provides and divisions [illegible] The other is [illegible] Large [illegible] [illegible]

All Makers of These and All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 30

▼ REPRINT—Search by IEN-1626 ▼

BATA HAMMERS · FAVORITE WRENCHES · ENPIRE MALLETS · PALMETTO Packings · MORAN'S COUPLINGS · "TUSKO" WALRUS POLISHING LEATHER

*Extrusion damage eliminated!*

NEW PALMETTO PACKING SEALS TO 15,000 PSI

Extrusion of packing material into clearance between mating parts is eliminated by use of Tweed Palmetto G-T Ring Packing!

Designed for reciprocating and static hydraulic service to 15,000 psi [illegible] pressure whenever a positive seal is required [illegible] temp. 250°F to −50°F for all except rotary service. Write for free descriptive bulletin TB-918.

GREENE, TWEED & CO. NORTH WALES, PENNSYLVANIA

**Contact your fully-stocked Palmetto distributor on all packing problems . . . ask him about our special tools.**

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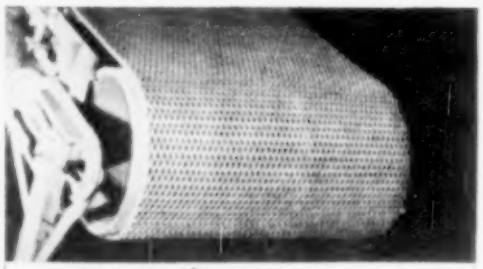

*Bearings and Buns* RIDE SAFELY ON WISSCO BELTS

In baking or dehydrating processes, at extreme temperatures, carrying light or heavy loads, Wissco Belts deliver the product safely . . . with lower handling costs, more uniform quality and at a faster rate.

Designed to resist abrasion or corrosion, Wissco Belts are made of woven wire. Their open mesh construction provides free circulation of air for baking, broiling, free drainage for washing, quenching or degreasing.

Write for non-catalog showing Wissco Belts, their use and application.

**WISSCO** METAL CONVEYOR BELTS — A PRODUCT OF WICKWIRE SPENCER STEEL DIVISION OF THE COLORADO FUEL AND IRON CORPORATION

Sales Office and Plant — [illegible]
Executive Office — [illegible]
Sales Offices — Boston • Buffalo • Chicago • Denver • Detroit • New York • [illegible]
Pacific Coast — [illegible]

▼ REPRINT—Search by IEN-1628 ▼

**SKIDS, PRY BARS, TRUCKS**

*Typical Ironbound Money-Savers*

SEMI-LIVE SKIDS

• Semi-live skids can be made for use with bar tops to move to provide having space saving machine. A semi-live skid handling system will save you money. Let us show you how. Write for illustrated literature.

PRY BAR

• Capacity to move rated 2,000 lbs. One piece bar. Hardened tongue. Lifetime guarantee.

IRONBOUND FLO TRUK

• [illegible] Write for literature.

**IRONBOUND** BOX & LUMBER COMPANY 30 HOFFMAN PLACE • BELLEVILLE, N. J.

SKIDS • SEMI-LIVE SKIDS • DOLLIES • FLOOR TRUCKS

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**HOLTITE SPECIALS**

Very often a Special threaded part, designed for a specific purpose, will replace several parts or fastenings, increase holding power, improve appearance, and effect substantial savings in materials and labor cost.

Our equipment and facilities for producing Special parts and fastenings are second to none. Send samples, specifications or blue prints for prompt quotations. Our Engineering Staff will gladly study your assembly for fastening improvements, and make recommendations for the most efficient applications.

**CONTINENTAL SCREW CO.** New Bedford, Mass., U.S.A.

IEN-1630

**...IN THE PRODUCTS YOU BUILD**

Manufacturers equip your products with the finest floats available—Stainless Steel Floats from Chicago Float Works. Your product can have no better assurance of long trouble-free float performance. You get all of the plus values of Stainless Steel along with Chicago Float Work's more than thirty years of specialized experience in engineering and building floats for industry.

**....check these features**

CORROSION RESISTANCE. Stainless Steel stands up better under varied services in many different kinds of corrosive fluids.

EXTREME STRENGTH. Will withstand pressures up 1000. Use temperatures to 800°F.

LIGHTER. Less weight affords more buoyancy making for more positive float action.

COMPLETE LINE. Diameters 3 to 30 in. Special sizes to order—standard or special float contours. Write for catalog giving sizes, shapes, wall thicknesses and complete engineering data.

**CHICAGO FLOAT WORKS, INC.**
**2326 S. Western Ave., Chicago 8, Illinois**

IEN-1631

**HOW TAPE HELPS INDUSTRY SAVE TIME, CUT COSTS...**

**SEND FOR FREE BOOKLET!** SHOWS HOW TAPE CAN HELP IN YOUR BUSINESS. Whatever your business, chances are you'll find the facts, figures and pictures in this 32-page booklet will help you cut costs! Just fill out the coupon—and mail it today. To the address below for your copy.

INDUSTRIAL TAPE CORP. NEW BRUNSWICK, N. J.

NAME (PLEASE PRINT)

TITLE

COMPANY

ADDRESS STATE

CITY

**Permacel**
**INDUSTRIAL TAPES**
INDUSTRIAL TAPE CORPORATION • NEW BRUNSWICK, N. J.

IEN-1633

**LUBRICATING** . . Hand operated pump delivers grease to manifold on machine

Source: LINCOLN ENGINEERING CO.
5712 Natural Bridge Ave., St. Louis 20, Mo.

Bucket Pump. [illegible]

IEN-1634

**STEEL** . . High speed for tools made in flats, rounds, squares, bits

Source: UNIVERSAL-CYCLOPS STEEL CORP.
50 Kirwan St., Bridgeville, Pa.

C 1.00% Cr 4.00%
Mo 6.25% W 6.25%
V 2.40%

Uses: [illegible]

IEN-1635

**COMMUNICATING** . . Sound proof booth for talking stations in noisy locations

Source: EXECUTONE INC.
415 Lexington Ave., Rm. 1301, New York 17, N. Y.

Model M-15 [illegible]

IEN-1637

**DO YOU KNOW?**

—that a PILOT LIGHT CAN IMPROVE YOUR PRODUCT . . . add attraction—safety—service?

Ask DIALCO

THIS MAY BE THE ONE

Designed for low cost NEW! Neon
• Bulb Recess • Finished
• Fully Insulated • Rugged

Catalogue Number 821KW—997 for 110 or 220 volts

SAMPLES
for design purpose
NO CHARGE

NEW! Write for the HANDBOOK OF PILOT LIGHTS

Write us on your design problems.

*Foremost Manufacturer of Pilot Lights*
**The DIAL LIGHT COMPANY of AMERICA**
900 BROADWAY, NEW YORK 3, N. Y.

IEN-1638

**THREADING SPEED!**

THE OSTER MANUFACTURING CO.
2053 East 61st Street • Cleveland 3, Ohio, U.S.A.

IEN-1639

**MELRATH GASKETS**

**FULL OPEN HEAD PAIL AND DRUM GASKETS**

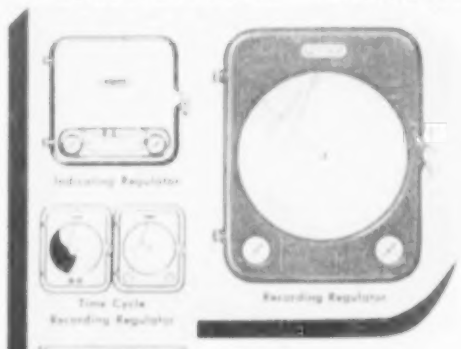
Designed to meet every service requirement. Tubular and solid rounds or sponge rubber for containers of liquids and semiliquids. Melco Fabritex Gaskets for use in drums of dry or powdered and semisolid products.

"There's a Melrath Gasket for Every Purpose"

**MELRATH SUPPLY & GASKET CO., INC.**
**3501 MEMPHIS ST., PHILADELPHIA 34, PA.**

IEN-1639

**PRECISION *Control***



POWERS

*by* **POWERS**

IMPROVES PRODUCTION • LOWERS COSTS

[illegible]

WRITE FOR BULLETIN 370

THE POWERS REGULATION COMPANY
[illegible] Chicago 14, Ill.
Offices in 30 Cities. 39 years of "Temperature Control"

▼ BRIEFITS—Identify by IEN-1640 if you write the maker ▼

LARGEST, MOST VARIED STOCK IN U.S.A.

Every shape and size in commercial rubber! Lavelle specialists can give you Design Suggestions. Write today for FREE 100-page catalog (or consult yellow pages, rubber section, today).

FREE: NEW 44 PAGE CATALOG

Fact sheet on the new Design Guide, 16 cents extra, with Lavelle Catalog #L44 (dealer).

Take it up with

**LAVELLE** Rubber Company

1411 WEST HUBBARD STREET, CHICAGO 22, ILLINOIS

▼ BRIEFITS—Identify by IEN-1641 if you write the maker ▼

# Graham

**THE FINEST Variable Speed Drive MADE**

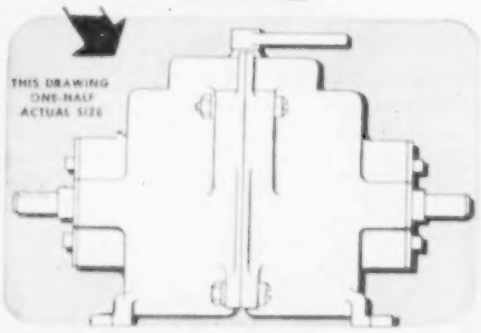
1. GUARANTEED MOST ACCURATE
2. WIDEST RANGE
   All speeds from low to zero (plus reverse if wanted with our shaking motor)
3. MOST COMPACT

**NOW $29.75 IN A NEW MIDGET SIZE**

F. O. B. Milwaukee

Price to O.E.M. Buyer, less quantity discount

MODEL 10




ONE-HALF SIZE VIEW OF THE MODEL 10 The Model 10 is ideal for small machines such as pumps, feeds and feeders, business machines, instruments, recorders, controllers, etc., etc.

MODEL 10 SPECIFICATIONS
- H.P. OUTPUT — 1/10 h.p.
- INPUT SPEED — 1800 RPM (motor) — shaft as required
- OUTPUT SPEED — from 0 to input speed in one and reverse
- TORQUE — 50 in.-oz.
- CONTROL — Finger-tip lever — 90° motion
- LUBRICATION — sealed-in oil or grease

OTHER SIZES UP TO THREE HP — For quick delivery of a Model 10 or full data on the Graham line, use the coupon, or refoin the Reader Service Card inserted in this magazine.

GRAHAM TRANSMISSIONS INC. 2754 N. Holton St., Milwaukee, Wis.

1. Enter our P.O. No. _____ for _____ Model 10 _____ Drives.
2. Send 100-page catalog on the Graham Drive or Give me a call. _____

▼ BRIEFITS—Identify by IEN-1643 if you write the maker ▼

## TESTING . . Hardness indicator gages depth of a Brinell impression

Source: HARRY W. DIETERT CO.
9328-32 Roselawn Ave., Detroit 4, Mich.

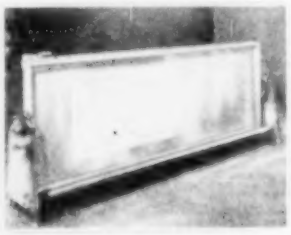
**First announced** some months ago, we report this Brinell Hardness Reader for those of you who may not have seen it in view of the fact that we mished the original announcement. Four fingers, segments of a sphere for a ball-centering element, in the base of the instrument, bearing like one an impression made in a work piece by a standard Brinell machine. The fingers are spring-loaded and guide a central depth-measuring stem into the recess of the impression. When the seating is obtained and a little pressure applied the dial indicator will read in terms of hardness.

**The indicator** measures 2¾ by 5 in. and weighs 2 ounces. It is available in two models for impressions made by a 3,000-kg. load with a 10-mm. ball and by a 500-kg. load with a 10-mm. ball. Accuracy in the medium compares favorably with use of a microscope and conversion tables.

▼ BRIEFITS—Identify by IEN-1644 if you write the maker ▼

## PRINTING . . Tilting vacuum frame to hold tracings and sensitized paper

Source: CHARLES BRUNING CO.
4754 Montrose Ave., Chicago 41, Ill.



**New design** of the company's Series-5500 vacuum printing frame employs factory-lubricated and sealed ball bearings in the trunnion mountings, a new spring-backed lever-operated pin lock to hold the counterbalanced frame in vertical and horizontal positions, new arrangement of clamping bars to secure the rubber backing blanket for operation by a single lever.

**The frame** is available in standard printing sizes between 44 by 62 in. and 56 by 146 inches. It is supplied without the plate-glass front which the user secures locally.

▼ BRIEFITS—Identify by IEN-1645 if you write the maker ▼

## WELDING . . Animated sound movie sequences show how studs are end welded to steel and their purposes

Nelson Stud Welding Div.
1 25th St. & Tolman Ave., Lorain, Ohio

**"Split-Second Fastening"** titles a new 18-min. color sound motion picture on the process of end welding studs to steel surfaces. In addition to the actual welding operation the film shows application in a number of industry divisions including railroad shops, shipyards, automotive plants, machinery manufacture. Showings can be arranged by request to the company.

*All Makers of These and All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58*

▼ BRIEFITS—Identify by IEN-1646 if you write the maker ▼

SEE YOUR CLASSIFIED PHONE BOOK

▼ BRIEFITS—Identify by IEN-1647 if you write the maker ▼

**PRINTWEIGH STOPS LOSSES!**

POSITIVE CONTROL OF COSTS

Eliminate human errors in reading, recording and handling weight figures—stop losses due to short weight and customer complaints.

PRINTWEIGH SCALES give you automatic printed records of each weighing operation . . . positive assurance that your weight facts are right every time! Prints big, clear figures . . . on thick tickets . . . on large or small sheets . . . on strips . . . with extra copies. Saves time, stops losses for receiving, shipping, stock rooms, batching and many other weighing operations. Write for bulletin 2021. Toledo Scale Company, Toledo 12, Ohio.

# TOLEDO

**HEADQUARTERS FOR SCALES**

▼ BRIEFITS—Identify by IEN-1648 if you write the maker ▼

# ALUMINUM ROLLING SCAFFOLD

**By the Makers of Gold Medal Ladders and Scaffolding**

For those who want the latest in rolling scaffold design, we offer the Aluminum Rolling Scaffold. Available in two types—stairway type (illustrated) and ladder type.

- LIGHT IN WEIGHT
- EASY TO ERECT—Aluminum makes parts light and easy to handle.
- SAFE—Cross bracing assures a rigid scaffold.
- VERSATILE—Interchangeable parts permit scaffold of one or more sections.

WRITE FOR FREE BULLETIN

Gold Medal Ladders & Scaffolding

For Greater Safety . . . Efficiency . . . Economy

**THE PATENT SCAFFOLDING CO., Inc.**

33-21 12th Street, Dept. 18 • Long Island City 1, N. Y.
See Your Classified Telephone Directory for Nearest Office

▼ BRIEFITS—Identify by IEN-1650 if you write the maker ▼

## POWERFUL, NEW, BANTAM-SIZE AIR CLAMPS

BASE MOUNTED TYPE SHOWN

NEW 3-WAY VALVE

Do you know what a tremendous saving in time and muscular effort can be made by using air clamps for holding work in position to be processed?

Here are the new Schrader Bantamsize Air Clamps—the inexpensive and quick-acting power assists—now the most dependable. Prices and tools are roughly commensurate for long hard use. Both type of pressure-mechanical and hydro-mechanical—guaranteed. Two types of mountings, base or leg, in 4 models in each type—models of 1 to 2 inches, cylinder diameters 1½", 2", 3" and 4".

There's a Schrader Air Clamp for every application. Write for complete catalog-data sheet today.

Schrader PRODUCTS CONTROL THE AIR

A. SCHRADER'S SON
416 VANDERBILT AVENUE
BROOKLYN 17, NEW YORK, DEPT. IN-1

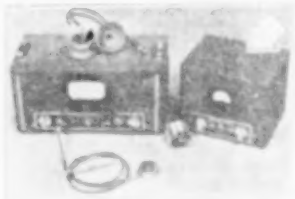
▼ BRIEFITS—Identify by IEN-1651 if you write the maker ▼

▼ BRIEFITS—Identify by IEN-1652 if you write the maker ▼

▼ BRIEFITS—Identify by IEN-1653 if you write the maker ▼

## TESTING . . Electronic instrument detects and analyzes noise, vibration

Source: AIRCRAFT ELECTRONICS ASSOCIATES, INC.
1029-33 New Britain Ave., Hartford 10, Conn.



New Correlator, in use right in the noise [illegible] has been developed for use with the company's noise Probe [illegible] (Section IEN-1650-D). The instrument is used in the home, usually. It is actuated by a microphone mounted in a metal or Plastic probe. The microphone is sensitive to a narrow frequency band, or narrow band, variable-center band that is adjusted and fed to a vibration head. This picture feeding a vibration of known frequency and intensity to the Probe for calibration.

▼ BRIEFITS—Identify by IEN-1654 if you write the maker ▼

## STEEL . . High speed for tools made in flats, rounds, squares, bits

Source: VANADIUM ALLOYS STEEL CO.
46 Thomas St., Latrobe, Pa.

| | | | |
|---|---|---|---|
| C | 1.50% | Cr | 4.75% |
| Mn | 0.25% | W | 12.50% |
| Co | 5.00% | V | 5.00% |

**Vasco Supreme** (trade name) is a high-speed steel which the company has had in test operation for a period of years following its initial introduction at the end of the war. It is suited for general purpose application in metal cutting. The steel features high carbon content, 1.50 per cent, to produce hardness and resistance to wear. It supports 5.00 per cent of vanadium to prevent brittleness.

**Available sizes** include 0.50 ¼ to 1 in. 0 in. in flats, ¾ to 4⅝ in. in rounds, ¾ to 1⅝ in. in squares, ¾ to 1 in. in tool bits, hardened, ground and ready for use.

▼ BRIEFITS—Identify by IEN-1655 if you write the maker ▼

## DISPENSING . . Hand operated pump measures oil or coolant from a drum

Source: PHILLIPS PUMP & TANK CO.
5002 Brotherton Road, Cincinnati 9, Ohio

**Model 171** (ratio Stroke) is a new hand-operated pump with a bottom threaded connection to fit in 1½ and 2-in. drum openings on the market. The extends down into the drum. The cylinder is fitted with a piston and leather gasket that is held to contact with the cylinder wall by a spring. The assembly includes a built-in foot valve and adjustable stops that can be set for delivery of less than the full gallon. A gasoline hose, nozzle and fittings can be supplied for the outlet side.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 10*

▼ BRIEFITS—Identify by IEN-1656 if you write the maker ▼

THREE WAY-Two Position Normally Closed-Normally Open-Directional Flow
TWO WAY-Normally Closed TWO WAY-Normally Open

Skinner Solenoid Valves are extremely compact yet have unusual capacity—a great asset to designers looking for positive, accurate, long-lived control for liquid and gaseous media. Available in standard pressure range of 5 to 250 p.s.i. and special from 5 to 850 p.s.i. Impregnated coils withstand moisture. Soft insert seats prevent leakage. Spring loaded for positive action. Usable in any position. Power consumption of 10 watts max. Pipe connections available to your specifications.

Write for Bulletin No. 491

Skinner ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
134 Belden Ave., Norwalk, Conn.

▼ BRIEFITS—Identify by IEN-1657 if you write the maker ▼

▼ BRIEFITS—Identify by IEN-1658 if you write the maker ▼

▼ BRIEFITS—Identify by IEN-1659 if you write the maker ▼

**Protect equipment against wear, corrosion, acids with RUBEROID RAPID ASPHALT PAINT**

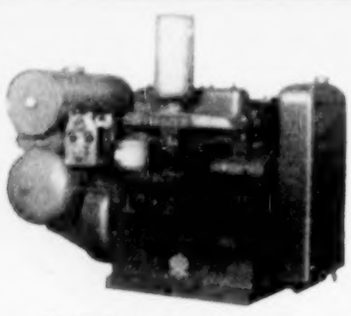
Check these advantages for durable, economical protection of surfaces exposed to wear, weather and chemical attack.

1. High resistance to acid and alkali.
2. Excellent electrical insulating qualities.
3. Withstands temperatures up to 212°F.
4. Prevents seepage, rot, rust.
5. Highly penetrant—preserves wood.
6. Stainless—odorless when dry.

The RUBEROID Co.
Executive Offices
500 Fifth Ave., N.Y. 18, N.Y.
MANUFACTURERS OF BUILDING MATERIALS

▼ IEN - 1660 ▼

# SCHRAMM *Unistage* AIR COMPRESSOR



Semi Portable & Stationary Compressor

Complete self-contained 60 cu. ft. engine driven compressor mounted on box base with fan and circulating pump, electric starter and battery charging generator, oil and fuel tank. Write for Bulletin

**SCHRAMM INC.** THE COMPRESSOR PEOPLE WEST CHESTER PENNSYLVANIA

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# EAGLE TIMERS

## FOR CONTROLLING INDUSTRIAL PROCESSES

MICROMETER DIAL

MULTIPLE CIRCUIT Adjustable

REPEAT CYCLE

COUNTER

EAGLE Signal Corporation

▼ IEN - 1662 ▼

45 CASE STUDIES

Write for your copy today.

PHOTOSWITCH INCORPORATED
75 Broadway, Cambridge 42, Massachusetts

## NEWS NOTES

▼ IEN - 1663 ▼

ABRASIVES — For stone cutting, grinding, polishing booklet describes what they are and how they are used

"Products for the Stone Industry"

▼ IEN - 1664 ▼

ADHESIVES — Specific instruction sheets in new booklet on company's plastic resin adhesives

"Resin Glue Manual"

▼ IEN - 1665 ▼

ALLOYS — For resistance and special uses detail engineering data in new 128-page handbook

"Resistance Handbook"

▼ IEN - 1666 ▼

# LITTLE CHAMP CUTS KEYWAYS

IN MILLING CUTTERS — PULLEY HUBS — GEARS — ETC.

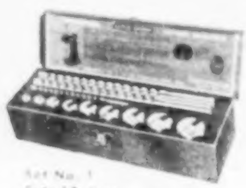
## SAVES TIME — CUTS COST

**Saves time** ...

**Saves time** ...

**Cuts cost** ...

**Cuts cost** ...

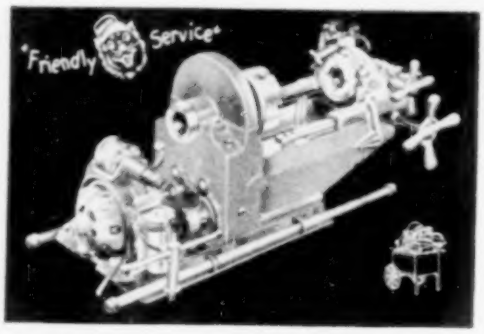


Set No. 1
Cuts 15 sizes

Threadwell

THREADWELL TAP & DIE COMPANY

▼ IEN - 1667 ▼




## Now Better than Ever... BEAVER Model-A

Two new improvements ... have been added to further increase the safety, convenience and performance of the Beaver Model-A ... Pipe and Bolt Machine ...

1. The new Automatic Switch Lock and Chuck Wrench Holder ...
2. The new Breakaway Speed Pipe Centering Device ...

And don't forget: there are ... different kinds and sizes of dies available ... Beaver Model-A ...

BEAVER PIPE TOOLS

▼ IEN - 1668 ▼

New ...-page "Fiberglas" ... Electrical Insulating Materials" manual is ... Contains performance charts, graphs, photographs and descriptive material ... including Tape, Varnished Cloth, Saturated Sleeving, Cloth, Laminates, Mica Combinations and Wire and Cable Insulations.

If you manufacture, design, ... repair ... electrical equipment, you need this new manual ...

... Write for your copy today: Owens-Corning Fiberglas Corporation ... New York 22, N. Y.

OWENS-CORNING FIBERGLAS ELECTRICAL INSULATING MATERIALS

*Fiberglas is the trade-mark (Reg. U.S. Pat. Off.) of Owens-Corning Fiberglas Corporation for a variety of products made of or with glass fibers.

IEN-1670

SEND FOR

# Your Catalog

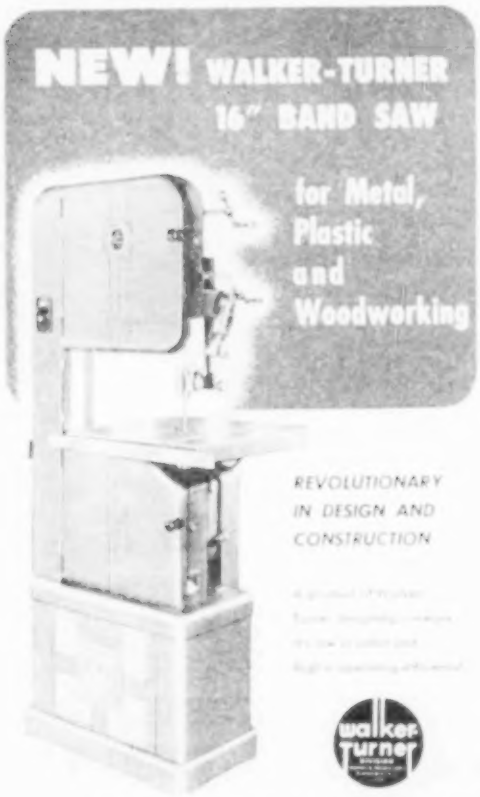
FROM

INDUSTRY'S HEADQUARTERS FOR VALVES TO AUTOMATICALLY CONTROL THE FLOW OF LIQUIDS AND GASES

Automatic Switch Co.

185 LAKESIDE AVE. • ORANGE, NEW JERSEY

IEN-1671




LOOK AT THE SPECIFICATIONS . . . COMPARE

SOLD ONLY THROUGH AUTHORIZED DEALERS

Walker-Turner DIVISION

KEARNEY & TRECKER CORP. PLAINFIELD, N.J., U.S.A.

KEARNEY & TRECKER MILWAUKEE

WALKER-TURNER DIVISION

SEE YOUR LOCAL DEALER

WALKER-TURNER DIVISION

Kearney & Trecker Corp., Dept. 12, Plainfield, N.J.

Please send me a copy of the complete Walker-Turner Catalog.

Name

Firm

Address

City Zone State

## NEWS NOTES—Continued

IEN-1673

CALENDAR . . . On wall chart
along with a table of decimal equivalents

IEN-1674

CAPACITORS . . . For improving power factor
chart shows how to select them for desired value

IEN-1675

CHAIN . . . Suggestions on design
in bulletin on unusual roller chain applications

IEN-1676

CASTINGS . . . Series of data sheets
on topics dealing with non-ferrous castings

IEN-1677

CORROSION PROOFING . . . Chart on concrete
for corrosion-resistant masonry construction

Resistance is summarized

As Shown in Every and In Other Products, for Special
To CHOOSE REGISTER . . . Description . . . Ratings . . . See Page 10

IEN-1678

IEN-1679

ADJUSTABLE TO ANY HOLE PATTERN
FITS ANY DRILL PRESS

COMMANDER MFG. CO.

4219 WEST KINZIE ST. CHICAGO 24, ILLINOIS

Product of Commander — Builder of the Commander Tapper

IEN-1680

. . . to meet Every Temperature Requirement

GENERAL PLATE

Division of Metals and Controls Corporation

FOREST STREET, ATTLEBORO, MASSACHUSETTS

IEN-1681

FOR YOUR SPECIAL MACHINERY

DIAMOND ROLLER CHAIN Simplifies Drive Problems

DIAMOND ROLLER CHAINS

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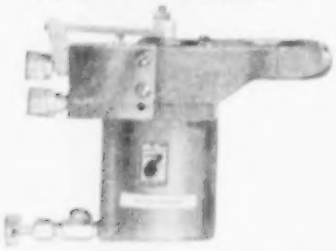
# DOUBLE YOUR DRILL PRESS OUTPUT FOR $30



## USE A NEW MEAD PNEUMATIC

DRILL PRESS FEED for DRILLING REAMING TAPPING

MEAD SPECIALTIES COMPANY

4114 NO. KNOX AVE., DEPT. EA-20, CHICAGO 41, ILL.

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CLEANING?
Floors
Machines
Boilers
Trucks
Equipment
Filters
Cafeterias

REMOVING?
Grease
Carbon
Paint
Stains
Rust
Scale
Dirt

he's your man so put him to work for free!

Yes, you can still get something for nothing. Just send for your Kelite Service Engineer. Fire your cleaning problem at him. Tell him about the cleaning jobs you want done better . . . the jobs that take too long . . . the jobs that cost too much.

You'll be glad you did . . . for he's an able fellow . . . this Kelite Service Engineer. *He's the man with the Key to Scientific Cleaning* . . . the man who introduced Kelite pH Control . . . the yardstick of cleaning efficiency. His efforts helped build our fine business . . . a leader in America. We are proud of him and know he can be of real value to you. His services are free.

*JUST PHONE . . . OR SEND THE COUPON*

KELITE-O — KELITE pH Control

SCIENTIFIC CLEANING THROUGH pH CONTROL

*MAIL THIS COUPON TO NEAREST OFFICE*

KELITE: Chicago 41, Ill., 1402 Fisher Avenue
Los Angeles 58, Calif., Box 2417, Terminal Annex
Phoenix, New York, Box 218, Old Country Road

Without obligation send the Kelite Service Engineer on the double.

NAME
COMPANY
STREET
CITY STATE

No business too large or too small. No cleaning problem too difficult. We welcome the opportunity to show YOU the Kelite way.


## NEWS NOTES—Continued

*"Free one-year course at M.I.T."*


▼ REPRINT—Identify by IEN-1685 if you write the maker ▼

DRYING . . . Test your product for spray drying at company's experimental plant

Instant Drying Corp.
101 Park Ave., Room 1108, New York 17, N. Y.

**You can rent** facilities of the company's Dunkirk-repair test plant on a weekly or monthly basis to try out materials for spray drying. Operator rental is $40. Usual procedure is to make three to four runs per day on a material to determine its characteristics. The best plant size is available to spray-dry a product on a pendulum basis. Literature is available outlining the equipment and the type of products handled.

▼ REPRINT—Identify by IEN-1686 if you write the maker ▼

GRINDING . . . Portable tools and their use described in technical article reprint bulletin

Rotex Tool Co.
11322-27 Euclid Ave., Cleveland 12, Ohio

**Company's president**, Mr. H. F. Bailey, is author of a series of articles in the technical literature which have been reprinted and reprinted in a new 32 page bulletin. Title is "How to Choose and Use Portable Tools." Topics include determination of surface operating rate, selecting the right tool for the job, standard and semi-standard tools, compressed air supply and cost, air power distribution, selecting the right hose.

▼ REPRINT—Identify by IEN-1687 if you write the maker ▼

LATHES . . . Operator instruction book on the screw cutting lathe and how to use it

South Bend Lathe Works
301 E. Madison St., South Bend 22, Ind.

**Revised Edition 19** is announced for the company's excellent instruction book, "How to Run a Lathe." List price is 25 cents in paper binding, $1 in fabricoid covers. New information includes machinability ratings and cutting speeds for various kinds of steel; standard tolerances for press fits, running fits, sliding fits; allowances for finish turning, filing, polishing, grinding, reaming, lapping, honing.

**Eleven chapters** and 128 pages describe setup and leveling operation, lathe tools, measurements, plain turning, chuck work, taper turning, boring, tapping, screw cutting.

▼ REPRINT—Identify by IEN-1688 if you write the maker ▼

MANAGEMENT . . . Fellowships announced for 14 young business executives to study a year

Massachusetts Institute of Technology
77 Massachusetts Ave., Cambridge 39, Mass.

**Deadline** on applications is February 24 for Sloan Fellowship awards in 1956. These fellowships cover a year of advanced study at MIT in economics and business administration. They are intended to prepare recipients for high executive responsibility. Awards are made on the basis of a nationwide competition to individuals who meet qualifications including age 30 to 35, five years industrial experience, with part in an executive capacity, college graduate, and ability to secure a year's leave of absence.

*All Makers of These and All Other Products Are Listed in THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 56*

▼ REPRINT—Identify by IEN-1689 if you write the maker ▼

**Goes to the SOURCE of BAD SMELLS!**

F & E — Disinfects while Deodorizing

F & E kills many types of bacteria which cause disgusting odors. At the same time it transforms noxious vapors into a pleasant, agreeable atmosphere tinged with the invigorating scent of eucalyptus.

USE F & E SOLUTION around toilets and urinals . . . for flushing garbage receptacles and sick room accessories . . . for dressing room benches and lockers . . . wherever agreeable, high-speed deodorization is required.

Write for Folder FE-F745

**The C. B. DOLGE CO.**
WESTPORT, CONNECTICUT

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for Versatile Work with Hairline Precision

KLING BROS. *Engineering Works*

1326-IE N. Kostner Avenue • Chicago 51, Ill., U. S. A.

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# "SPRA-CON" PAINT FINISHING EQUIPMENT

INSURES: *TOP QUALITY FINISHES*

GUARANTEES: *INCREASED PRODUCTION*

OUR PERFORMANCE PROVEN BACKGROUND—FROM ORIGINAL DESIGN THROUGH COMPLETED INSTALLATION—QUALIFIES US TO THOROUGHLY OVERCOME YOUR PAINT FINISHING PROBLEM

CONVEYORS—all types
OVENS—Conveyorized or Batch type
FLOW-COAT equipment
WASHERS—power spray, multi-stage
AIR MAKE-UP systems

*COMPLETE SYSTEM OR SINGLE UNIT*

THE SPRA-CON CO.
1404 N. WESTERN AVENUE CHICAGO 22

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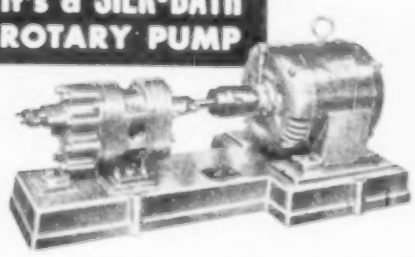
MAINTENANCE CREW, **HANDS OFF!**

It's a SIER-BATH ROTARY PUMP



A Sier-Bath Screw Pump and Reducer Pumps are designed to do a job and keep doing it the manufacturer knows the high cost of interrupting operation to permit pump repairs. For example, the gears on the internal Sier-Bath Screw Pump is the only pump of its kind, and also the only one on the market that has gears on the suction side. Packing usually lasts two years without repacking. Pressure on the gears is so slight that a few drops of packing may be added without shutting down unit.

Send for information

FOUNDED 1910 MEMBER A.G.M.A.

Sier-Bath GEAR and PUMP CO., Inc.
9251 HUDSON BOULEVARD NORTH BERGEN, NEW JERSEY

▼ REPRINTS—Identify by IEN-1693 if you write the maker ▼

STURDY, CONVENIENT, LOW-COST

**JIFFY** *ALL METAL* **CABINETS**

FOR SMALL PARTS, DRILLS, TOOLS, CARBIDE TIPS AND MOUNTED POINTS

32 DRAWER UNIT • DIVIDES INTO 96 COMPARTMENTS **$8.95**

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64 DRAWER UNIT • DIVIDES INTO 192 COMPARTMENTS **$15.95**

*Rustproof Aluminum Drawers*

| APPROXIMATE SIZES |
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| DRAWER 1¼" Deep 2½" Wide 6" Long |
| 32 DRAWER UNIT 6" Deep 17½" Wide 13¼" High |
| 64 DRAWER UNIT 6" Deep 25½" Wide 13¼" High |

Complete set of Drawers and Index Cards Included

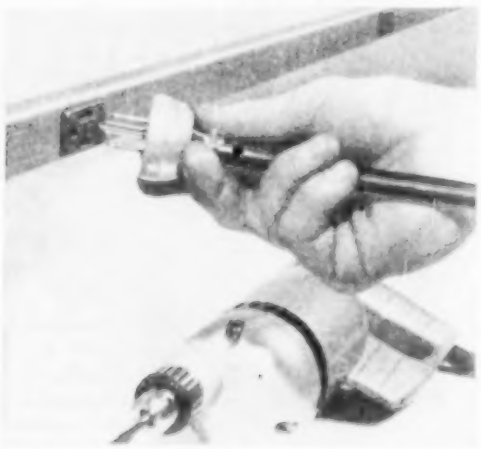
Rust-proof steel cabinet, dome finish, drawer guides, aluminum, finish and steel compartments, dividers in bottom, front labels, the best storage system, easily engaged by convenient storage in small space, finite labels, handle, high, dependent, points or assembly latch, work or tools in the case. Order now for immediate delivery. Send check or money order or open purchase slipped for receipt of purchase order.

KAYTEE PRODUCTS
DEPT. L · BOX 505 · CANTON, OHIO



▼ REPRINTS—Identify by IEN-1694 if you write the maker ▼

**READY NOW!**



NATIONAL ELECTRIC'S NEW

**GROUNDING**

"PLUG-IN" STRIP TYPE CF2-G

*A dual-purpose, metal-clad, multi-outlet assembly . . . offering two electrical wiring systems in one!*

*Here is*—Permits use of grounded or ungrounded devices from the same outlet . . . will take either the new Series 8200 3-blade grounding plug or the standard 2-blade ungrounded plug . . . outlets every 6" or 18".

*Listed by Underwriters' Laboratories, Inc.*

UNLIMITED APPLICATIONS . . .

IN FACTORIES . . . OFFICES . . . STORES . . . HOMES . . . HOTELS . . . APARTMENTS . . . SCHOOLS . . . HOSPITALS . . . INSTITUTIONS. "Plug-In" Strip is a professional material. Consult your electrical contractor for installation. Grounding "Plug-In" Strip meets contemplated revisions in the National Electrical Code covering grounded electrical systems.

Type CF2-G Grounding "Plug-In" Strip is the quicker and easier method of meeting grounding requirements. Write for our free folder "Grounding Plug-In Strip."

NATIONAL NE WIRES AND CABLES

STEEL FOR PERMANENCE . . . GROUNDED FOR SAFETY

**National Electric**
PRODUCTS CORPORATION
1352 CHAMBER OF COMMERCE BLDG., PITTSBURGH 19, PA.


## NEWS NOTES—*Continued*

*"$100,000 for fundamental chemical research"*

▼ REPRINTS—Identify by IEN-1696 if you write the maker ▼

LUBRICATING . . . Molybdenum disulphide as a dry film lubricant described in reprint

Climax Molybdenum Co.
500 Fifth Ave., New York 36, N. Y.

Two technical paper excerpts [illegible] page bulletin, "Molybdenum Disulphide as a Lubricant," to present information on properties of the material as a solid film dry lubricant. Test equipment and results are shown.

▼ REPRINTS—Identify by IEN-1697 if you write the maker ▼

MANAGEMENT . . . $100,000 for research donated by the company to five universities

E. I. du Pont de Nemours & Co.
2521 Nemours Bldg., Wilmington 98, Del.

Grants-in-aid [illegible] for the fiscal year [illegible] company. This gift for [illegible] year is the first of a [illegible] research. The five universities [illegible] the research [illegible] the expenditure [illegible] suggestions.

▼ REPRINTS—Identify by IEN-1698 if you write the maker ▼

MANAGEMENT . . . Catalog of motion picture films lists 42 titles in 16-mm. size available on loan direct

General Motors Corp.
[illegible] W. Grand Blvd., Detroit 2, Mich.

"Motion Pictures" [illegible] page [illegible] of [illegible] the company and [illegible] for group showing. One page is assigned to each [illegible] of motion picture [illegible] Title [illegible] From ABC of the [illegible] "Wonderland of [illegible]."

▼ REPRINTS—Identify by IEN-1699 if you write the maker ▼

MANAGEMENT . . . How to sell abroad . . . booklet makes suggestions country by country

National Association of Manufacturers
14 W. 49th St., New York 20, N. Y.

What can you sell [illegible] NAM. [illegible] each country [illegible] Kingdom.

▼ REPRINTS—Identify by IEN-1700 if you write the maker ▼

PLASTICS . . . Properties of vinyl butyral resins described in new 24-page technical information booklet

Monsanto Chemical Co.
[illegible] 42nd St., Room [illegible], New York 17, N. Y.

Coatings and adhesives [illegible] page 50.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50*


▼ REPRINTS—Identify by IEN-1701 if you write the maker ▼

IT'S BEEN PROVED in plants everywhere . . . that Roebling Cold Rolled Spring Steel saves preparation time on machines, cuts down machine stoppages and rejects. And this is natural! Every inch of Roebling Spring Steel is identical in gauge and finish . . . meets your specifications with absolute uniformity.

Roebling Cold Rolled Spring Steel is available annealed, hard rolled untempered, stainless tempered, tempered and polished, either bright, strawed or blued.

Have your Roebling Field Man help you choose the cold rolled spring steel—or round, flat or shaped wire—that will improve your product and your production. John A. Roebling's Sons Company, Trenton 2, New Jersey.

ROEBLING

A CENTURY OF CONFIDENCE



▼ REPRINTS—Identify by IEN-1702 if you write the maker ▼

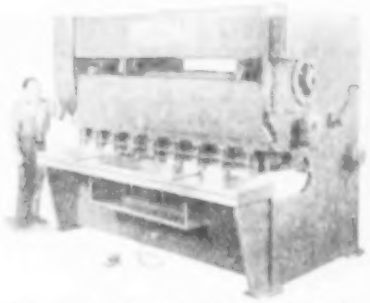
USS

**CYCLONE METAL CONVEYOR BELTS**

UNITED STATES STEEL



▼ REPRINTS—Identify by IEN-1703 if you write the maker ▼



*EASIEST* OF ALL SHEARS TO OPERATE!

"Easiest of all shears to operate" . . . so many operators of Steelweld Power Blade Shears. These machines are radically different from all other shears. They have many new features heretofore unavailable that raise the work speed, reduce fatigue, increase accuracy, reduce maintenance.

Get the facts on Steelweld Shears. Built in all sizes for plate up to 10 feet long by 1/4" thick.

THE CLEVELAND CRANE & ENGINEERING CO.
4208 East 71st St., Wickliffe, O.

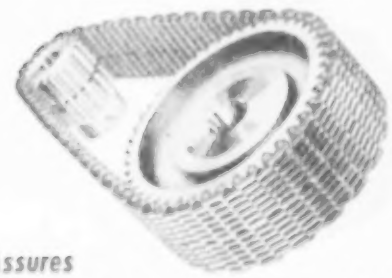
STEELWELD SHEARS



▼ REPRINTS—Identify by IEN-1704 if you write the maker ▼

**WHITNEY**

**SILENT CHAIN**



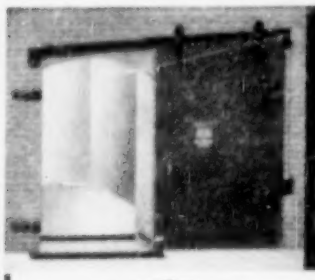
*Assures*

*Efficient, Positive Power Transmission*

Regardless of your drive problems, Whitney Silent Chain will meet your particular requirements. These tough, rugged chains deliver full power without friction loss or slippage. Their positive grip helps maintain product uniformity. They withstand shock loads without breakage . . . give long life and cut maintenance to the bone. And remember, Whitney Cut Tooth Sprockets complete the combination assuring efficient power transmission. It will pay you to investigate on Whitney. Write for complete information.

THE WHITNEY CHAIN & MFG. CO.
DIVISION OF WHITNEY-HANSON INDUSTRIES, INC.
202 Hamilton Street, Hartford 2, Connecticut

IEN-1705



**INCREASE FIRE PROTECTION—CUT INSURANCE COSTS**

**COBURN** FIRE DOOR HARDWARE

Architects: Economize doors installed with Coburn Fire Door Hardware reduce fire hazards and lower insurance rates.

Coburn Fire Door Hardware is made to specifications of The National Board of Fire Underwriters and where required, bears the U. L. Label. Special set available for single and double hollow or steel slide doors, single and double swing doors, vertically operated doors. All equipped with automatic self closing devices. Write for catalog #210 showing full line of hardware, clearly showing required handhole, wall space and other information.

Engineering help available without obligation.

**COBURN PRODUCTS DEPARTMENT**
WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORP.
Executive Office • 500 Fifth Avenue, New York 18, N.Y.
Sales Engineering • 50 Sterling Street, Clinton, Mass.

IEN-1706

**NEW SILICONE-BASE HEAT RESISTANT FINISH**

MICO—a line of finishes that withstand temperatures to 1000°F. and higher.

Manufactured Exclusively by
**MIDLAND INDUSTRIAL FINISHES COMPANY**
Dept. IEN-2 Waukegan, Illinois
ENAMELS • SYNTHETICS • LACQUERS • VARNISHES

IEN-1707

**KELLOGG M-5 SELECT-O-PHONE**

**ALL THE ADVANTAGES OF A *Private* TELEPHONE SYSTEM AT LOW COST!** Other Models Available Up to 48 Stations

SELECT-O-PHONE DIVISION
Kellogg Switchboard and Supply Company
6650 S. Cicero Ave., Chicago 38, Illinois

Please contact us regarding our private telephone equipments. We will need ___ telephones.

NAME
COMPANY
ADDRESS
CITY ZONE STATE

## NEWS NOTES—Continued

*Test your product for spray painting*

IEN-1708

PAINTING—New service provides the answer as to whether your product can be sprayed automatically.

IEN-1709

PRESSES—House publication article describes range of company's hydraulic equipment.

IEN-1710

STEELS—How to work tool steel the subject of new 16 page technical data bulletin.

IEN-1711

STEELS—For elevated temperature service described in new 88 page technical data bulletin.

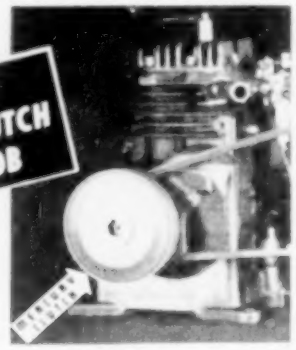
IEN-1712

**THE MERCOID CORPORATION**
4223 West Belmont Avenue, Chicago 41, Illinois

MANUFACTURERS OF AUTOMATIC CONTROLS FOR HEATING, AIR CONDITIONING, REFRIGERATION AND NUMEROUS INDUSTRIAL APPLICATIONS. ALSO MERCOID BRAND MERCURY SWITCHES

**MERCOID CONTROLS AND MERCURY SWITCHES**

IEN-1713

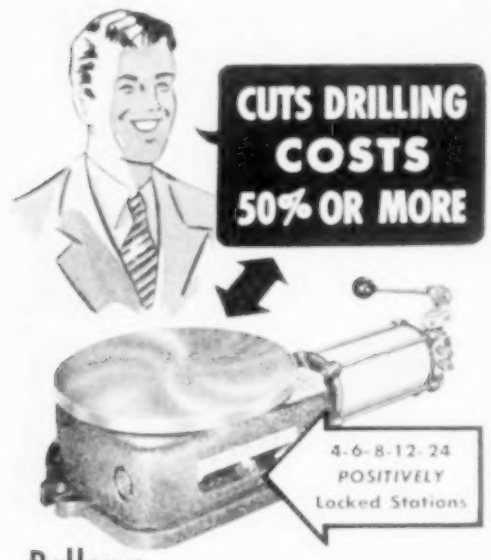


**PUT A MERCURY CLUTCH ON THE JOB**

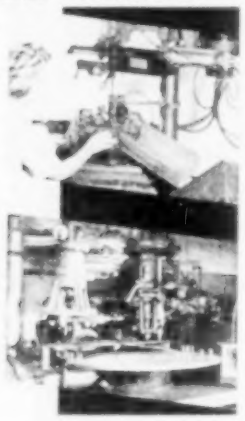
## *Solves Starting Problems*
### of Gasoline Engines and Electric Motors

*Mercury Clutch Division*
**AUTOMATIC STEEL PRODUCTS INC. CANTON 6 • OHIO**

IEN-1714




**Bellows**
*"Controlled-Air-Power"*
## ROTARY WORK FEED TABLE



EVERY second the spindle stands idle to load or unload parts in the jig or fixture it costs you money.

With the Bellows Rotary Work Feed Table you can feed 4, 6, 8, 12, or 24 loaded jigs to the spindle automatically and at speeds ranging from 5 to 100 lbs of a second to 17 100 lbs of a second.

• Combining the Rotary Feed Table with the Bellows "Controlled-Air-Power" Drill Press Feed and you have fast semi-automatic operation. All the operator has to do—load the part.

If you operate one or more drill presses on short, medium or long production runs you can cut drill press operation costs 50% or more with Bellows "Controlled-Air-Power."

• **WRITE FOR FREE BULLETIN**

Address Dept. IEN-2

**The Bellows Co.**
**AKRON 9, OHIO**

IEN-1716

IEN-1717

# Here Again...

## National Retaining Rings

save time!

save money!

save material!

THE NATIONAL LOCK WASHER CO.
NEWARK 5, NEW JERSEY • MILWAUKEE 1, WISCONSIN

NATIONAL

## NEWS NOTES—Continued

Interested in these pages?

IEN-1719

STEELS . . . Application picture book on Otisalloy low-alloy steel for transportation units

Properties

IEN-1720

SWITCHES . . . Suggestions on their use contained in articles in house publication

Field article

IEN-1721

TESTING . . . How to use SR-4 strain gages described by text and drawings in new 8-page bulletin

Cartoon-style drawings

IEN-1722

VALVES . . . Catalog on regulating valves employs section drawings to illustrate its 72 pages

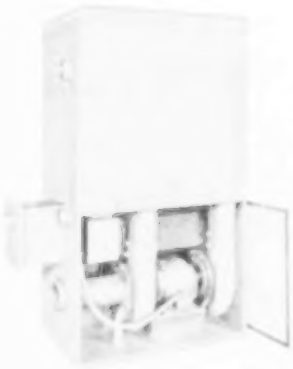
Air illustrations

FIFTY YEARS OF PROGRESS

IEN-1723

DUST COLLECTING . . . Filter unit cleans air at dust producing equipment

Source: KIRK & BLUM CO.
2439 Spring Grove Ave., Cincinnati 22, Ohio



Filter units

Capacities

IEN-1724

## FACTS AVAILABLE ON SELECT "70"

METAL & THERMIT CORPORATION
120 Broadway • New York 5, N. Y.

CHICAGO CINCINNATI CLEVELAND HOUSTON MONTREAL
NEWARK PHILADELPHIA PITTSBURGH SAN FRANCISCO TORONTO

IEN-1725

## A NEW BOOK TO HELP YOU CUT COSTS

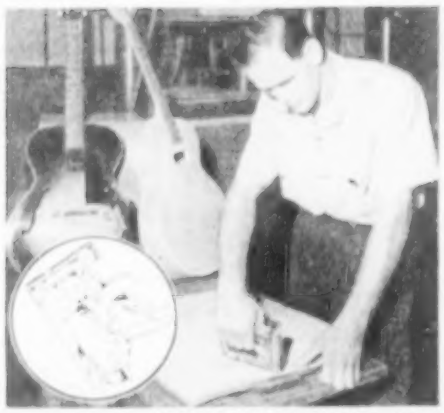
Your new booklet on Rex stock sprockets gives you all the details on how these sprockets will add life to your chain drives. Easy to order highest quality gives long wearing Rex Temperset chain in a matched sprocket for every chain in our complete line.

The booklet includes complete specifications and ordering information. Send for it today—use the coupon below.

REX CHAINS and SPROCKETS

IEN-1726

## HANSEN • THE TACKER with 1001 USES



HANSEN

A.L. HANSEN MFG. CO.
5051 RAVENSWOOD AVE
CHICAGO 40, ILL.

▼ BREVITY—Identify by IEN-1727 if you write the maker ▼

# Dependable Flow Control

with

## DAVIS FLOAT VALVES

THE DAVIS NO. 60 FLOAT VALVE

WHERE top speed plant operation is vital don't forget the common place piece of equipment which must operate dependably in order to insure the highest efficiency in every plant department.

For Float Valve dependability, the Davis No. 60 is unexcelled. Here are a few of its outstanding features:

1. The Famous Davis Single Seat Pilot Stem Valve! Tight closing and non-sticking. Standard class will open against any pressure up to 125 lbs.

2. No internal packing! Disc renewable easily and economically. Hot or cold liquid at high or low pressure handled without hunting or water hammer.

3. Sizes 3" and smaller are all brass valves. Larger sizes have semi-steel body, bronze bonnet, piston and trim. Globe or angle body patterns.

DAVIS REGULATOR CO., 2529 S. Washtenaw Avenue, Chicago, Ill.

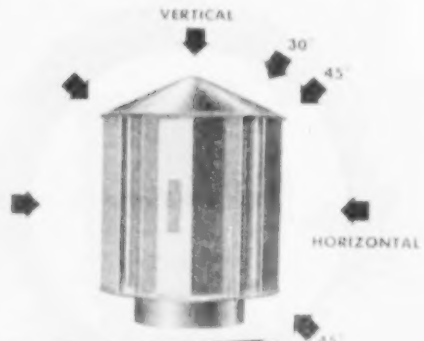
DAVIS REGULATOR COMPANY

▼ BREVITY—Identify by IEN-1728 if you write the maker ▼

# CAUTION

## To Ventilator Buyers

If you want to be sure of what you're getting when you buy ventilators, insist on *certified capacity ratings* based on tests made with wind blowing *in all directions*, as indicated below.




**The First Scientific Improvement in Ventilators in over 50 Years!**

Breidert Air-X-Hauster Type B

*Only such tests can guarantee the capacities a ventilator will deliver under actual operating conditions!* Don't be misled into buying on size alone. Insist on the correct size for the capacity required.

The Breidert Air-X-Hauster has been tested by Smith, Emery & Co. of San Francisco, Pacific Coast branch of the Pittsburgh Testing Laboratory, with wind directed at all angles shown above. It is the only ventilator on the market with published certified ratings based on such tests. Breiderts are extensively used on industrial, commercial and residential buildings all over the country, and on most types of pleasure craft and ships.

For detailed information and free Engineering Data Book on the Breidert, send the coupon.

## G. C. BREIDERT CO.

3129 San Fernando Road, Los Angeles 65, Calif.

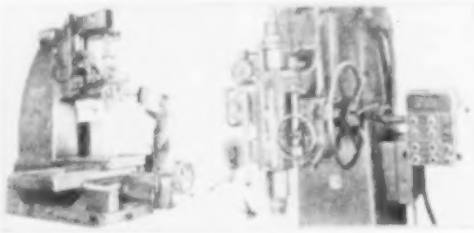
Representatives in Principal Cities of the United States

G. C. BREIDERT CO. Dept. 2
3129 San Fernando Road, Los Angeles 65, Calif.
☐ Send name of nearest Breidert representative.
☐ Send Free Engineering Data Book and other literature.
Name
Company
Street
City ... Zone ... State

▼ BREVITY—Identify by IEN-1730 if you write the maker ▼

## BORING . . Jig boring machine, 36 by 72 in. table, works to .0001 in.

Source: PRATT & WHITNEY DIV.
49 Charter Oak Blvd., West Hartford 1, Conn.



No. 1-E, designated the largest machine the company has produced so far in its line of precision jig boring equipment. The 36 by 72-in. table will take a work load to 2½ ton and hold accuracy within "one tenth." It provides table movement through 60 in. or 30 in. on each end of center position. Cross movement is through 36 in. or 18 in. on each side of center. Maximum standard height of 33 in. from table to spindle nose can be increased by 6, 10 or 14 in. to a maximum of 47 inches. The plain table can be replaced with a rotating one of rectangular and 42-in. circular table or with a 48-in. rotary table.

**Table and work positioning** is by the company's new Electronic measuring equipment in place of the previously adopted rod-measuring gauge. Spindle travel through the jaws and movement is limited by an adjustable length stop of the indicator type and a positive stop, all built into the spindle head.

**Tools with shanks** to No. 5 Morse taper enter in the spindle with collets and a spindle nose cap. Feed is adjustable between .0002 and .015 in. per revolution in upward and downward directions. Spindle speed, start and stop and the action of a spindle clutch and brake are controlled at a pendant station to the right of the machine head. Here also are controls for the spindle head and clamp in upward and downward adjustment, for the table traverse and for the carriage and table power feeds. Pushbuttons are located also on the carriage and table control brackets for rapid power traverse in connection with initial work positioning. Electrical apparatus is secluded in a separate cabinet located separately to eliminate danger of heat transmission to the machine.

**Bulletin** "No. 46 Jig Borer," 4 pages, excellent captioned views of front and side elevations with essential dimensions and explanatory captions, tabulated specifications and information on standard equipment.

▼ BREVITY—Identify by IEN-1731 if you write the maker ▼

## TESTING . . Liquid bath for minus 70 deg. to plus 500 deg. F.

Source: TODD SCIENTIFIC CO.
50 State Road, Springfield, Pa.

**Liquid capacity** of this new Electronic Temperature bath for laboratory use is 8 gallons. Inside dimensions are 14 in. in diameter by 17 in. in depth. Wall thickness at the sides and ceiling is 2 inches. Cooling or heating medium can include dry ice in acetone or alcohol, refined mineral and vegetable oil as desired.

**Inner** and outer aluminum shells are single piece construction. Four removable support rods are provided to hold basket and other equipment in position. Low price is $29. An immersion heating element can be specified when heating is required.

▼ BREVITY—Identify by IEN-1732 if you write the maker ▼

## LOCK . . Foot operated clamp holds mobile equipment against movement

Source: RAPIDS STANDARD CO.
342 Rapistan Bldg., Grand Rapids 2, Mich.

Three sizes are included in a new line of foot-operated swing-type floor locks for use on mobile equipment, particularly such equipment mounted on the company's Rapistan carriers No. 15, 200 and 2035. An assembly is at the bottom of the frame on pivotable extension. Assembly then swings with the operating foot pedal.

**Depressing** the foot pedal causes locks arms against the floor and prevents equipment from being moved. Release of pressure on the pedal allows the arms to be raised upward by spring tension. Extended arms are then no longer free to swing. Weight capacity is 2 tons.

All Makers of Tires and All Other Products Are Listed in THOMAS REGISTER Distributors Ratings See Page 10

▼ BREVITY—Identify by IEN-1733 if you write the maker ▼

## O.K. GANG SLITTER KNIVES for longer service

## O.K. ROTARY SHEARS & BLADES for maximum toughness

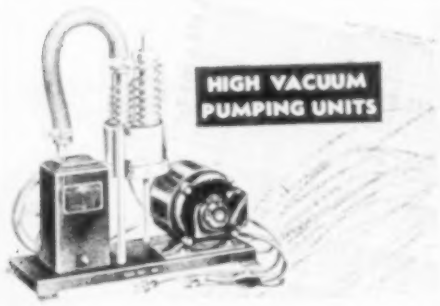
## The OHIO KNIFE Co.

CINCINNATI 23, OHIO, U. S. A.

CLIP AND MAIL TODAY

THE OHIO KNIFE CO., CINCINNATI 23, OHIO
Gentlemen: Please send without obligation specific data on knives I have checked.
☐ CIRCULAR KNIVES ☐ SHEAR BLADES
COMPANY
NAME
ADDRESS

▼ BREVITY—Identify by IEN-1734 if you write the maker ▼




Two high-vacuum, high-speed pumping units are offered for general laboratory and production use.

**No. 33280 Pumping Unit** consists of a Cenco Pumpette and a 1-H-P VMC 91 for exhausting to pressures of 0.5 mm or low. The pumping speed of this unit is 10 liters per second or better at 10-4 mm pressure.

**No. 33282 Pumping Unit** consists of a Cenco Pumpette and a 1-H-P VMC 91. It is similar to No. 33280, but pumps with a speed of 20 liters per second or better at 10-4 mm pressure.

*Write for complete circular 1188*

**CENTRAL SCIENTIFIC COMPANY**
*Scientific Instruments • Laboratory Supplies*
1700 IRVING PARK ROAD, CHICAGO 13
NEW YORK BOSTON SAN FRANCISCO NEWARK LOS ANGELES TORONTO MONTREAL

▼ BREVITY—Identify by IEN-1735 if you write the maker ▼

# POTDEVIN

Aniline Ink

## PRINTING PRESSES

Kimber multi-length web press. Note long paper run between 1st and 2nd units and extra operation before rewinding.

There are POTDEVIN presses for every kind from 10" to 40" web width . . . one to six-color work . . . for direct conversion to paper bag and other paper converting machinery or roll-to-roll.

No matter what the material to be printed—tight board, paper, cellophane, glassine, etc.—you can depend on POTDEVIN presses to do it better.

Contact our engineers on any problem. No obligation. Literature on request.

**POTDEVIN MACHINE CO.**
1213 38th St., Brooklyn 18, N. Y.

Designers and manufacturers since 1893 of equipment for Bag Making, Printing, Coating, Gluing and Labeling.

REPRINT—Identify by IEN-1736 if you write the maker

RAILWAY and INDUSTRIAL ENGINEERING CO.
KERR STREET, GREENSBURG, PA.

REPRINT—Identify by IEN-1737 if you write the maker

**An assembly practice that pays off in Better Aluminum Performance!**

WRITE TODAY FOR FREE SAMPLES OF ALCOA ALUMINUM FASTENERS

Aluminum assemblies stay strong and tight when fastened with Alcoa Aluminum Fasteners. No galvanic action between dissimilar metals to loosen up joints. Alcoa Fasteners resist common corrosion, stay bright and attractive, won't rust and streak adjacent surfaces. Phillips head screws and bolts available—speed assembly, cut fitting time, decorate as they fasten.

Standard sizes and lengths in steel metal, wood and machine screws in all popular head styles. Bolts, nuts and washers. Write on your letterhead for samples to ALUMINUM COMPANY OF AMERICA, 2137-B Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA *Aluminum* FASTENERS

REPRINT—Identify by IEN-1739 if you write the maker

## SAWING . . Stock feed attachment for company's horizontal band saw

Source: WELLS MFG. CORP.
1111 Madison St., Three Rivers, Mich.

**Wells-O-Bar** [illegible] Marvel is a non-self-contained attach. [illegible] consisting [illegible] mounted equipment [illegible] parts to wheel [illegible] position on the feed side of the sawing machine. The wheels, both carrier [illegible] are driven feed [illegible] position against the stationary side of the machine vise. A separate spring loaded [illegible] pressure pulley holds the feed rolls against the movable side of the vise. The air pressure applied to rotate the feed rolls holds the stock against the stop. For a rigid, foreside [illegible] stop is a plate that [illegible] through and falls from the adjustable stop.

**Length** of the attachment is 72 in. measured over the stock supporting [illegible] and frame. Height is adjustable from 24 to 40 in. above the floor. Cut angles can be set at any amount to 18 inches. The unit will fair to within 2 in. of the end of a stock length. Weight is about 200 pounds. Operating air pressure is 60 to 80 pounds.

REPRINT—Identify by IEN-1740 if you write the maker

## PUMP . . Motor driven centrifugal for sump service has a 10 gpm. rating

Source: SUTTON MFG. CO.
112-16 W. Wilson Ave., Norfolk 10, Va.

**Model PSA** is new design in the company's line of submerged centrifugal pumps for applications in sumps with both the pump and the motor under water. The motor operates on 6, 12, 32 or 115-volt dc to meet [illegible] Rating is for discharge against a head to 32 feet. Capacity is to 10 gpm. Dimensions are 7¼ by 9 by 7¼ inches. Weight is 5¾ pounds. Income to the pump is screened.

REPRINT—Identify by IEN-1741 if you write the maker

## WRENCHES . . Socket sets. ⅜ to ¾ in. and 7/16 to ½ in.

Source: PROTO TOOLS
2207-11 Santa Fe Ave., Los Angeles 54, Calif.

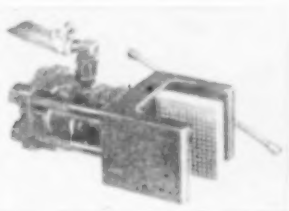
**No. 5200C** designates new set of ten sockets of which three are 8-point, or double square, between ⅜ and ½ in. and seven are 12 point, or double hexagon, between ⅜ and ¾ inch. A hinge and a pin handle, both ⅜ in., are included. Packaging is in a steel box.

**No. 5100C** is a sixty set, size of the sockets with ¼ in. drive in which the sockets range from 7/16 to 1½ in. in 12 point design. There are two handles. Packaging is in a steel box measuring 27 by 5 by 2 in. in outer dimensions.

REPRINT—Identify by IEN-1742 if you write the maker

## VIBRATING . . Pneumatic unit with clamping head for wood or metal

Source: CLEVELAND VIBRATOR CO.
2736 Clinton Ave., Cleveland 13, Ohio



**New assembly** of one of the company's pneumatic vibrators and a C-shaped head with a screw-operated clamping plate applies the vibrator to a wood or metal structure. Concrete forms make an example in which the vibrating action promotes compacting. Time-lapse is the design [illegible]

**The clamping head** opens to [illegible] 2 in. in width. Area of the clamping face is 76 square inches. Overall dimensions are approximately 8¾ by 5 by 2 inches. Weight is 11 pounds. Operation is at 3,000 cycles per minute on 100 lb. pressure. 1,000 per minute on 50 pounds. Air enters through a swivel connection to supply the free-flow engine.

All Makers of These and All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 36

REPRINT—Identify by IEN-1743 if you write the maker

## No pigs in 168,930 lbs. of synthetic alloy iron!

with DETROIT ROCKING ELECTRIC FURNACE

[illegible]

Write today!

**DETROIT ELECTRIC FURNACE DIVISION**
KUHLMAN ELECTRIC COMPANY
1050 36th St. • BAY CITY, MICHIGAN

REPRINT—Identify by IEN-1744 if you write the maker

# EYE LEVEL CHECK ON BOILER WATER LEVELS

Positive, constant check on boiler water levels is now possible at eye level—right on the instrument panel or other convenient location.

Yarway's Remote Liquid Level Indicator is always accurate because it's operated by the boiler water itself. No stuffing boxes. Indicating mechanism is never under pressure.

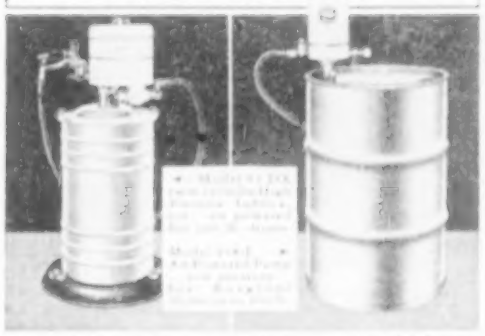
Ideal for indicating boiler water level, feed heater water level, superheater pressure differentials and tank levels. For complete description and operating details, write for Bulletin WG-1821.

YARNALL-WARING COMPANY
122 Mermaid Ave., Philadelphia 18, Pa.

**YARWAY**
**REMOTE LIQUID LEVEL INDICATOR**

REPRINT—Identify by IEN-1745 if you write the maker

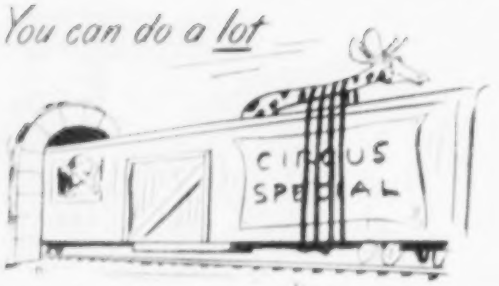
*Fast, Clean Handling of Lubricants with* **ARO**



*A complete line* for your needs in specialized lubrication—any type of machinery or equipment. Each Aro unit is specifically engineered . . . assures fast, clean handling of lubricants from drum to fitting . . . positive lubrication . . . with less labor, less waste, lower cost! See your Aro Jobber or write . . . The Aro Equipment Corp., Bryan, Ohio.

**ARO**
**LUBRICATING EQUIPMENT**

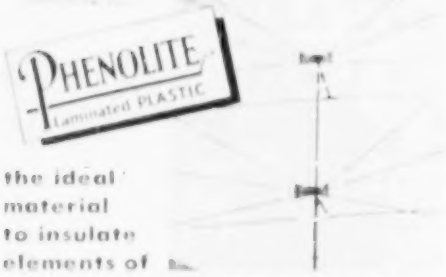
IEN-1746



JENKINS Gold Seal Tape
FRICTION RUBBER

MADE BY JENKINS BROS. MAKERS OF FAMOUS JENKINS VALVES

IEN-1747




**TELEVISION ANTENNAE**

NATIONAL VULCANIZED FIBRE CO.
WILMINGTON DELAWARE Offices in Principal Cities

IEN-1748

**Unground Flanged Ball Bearings with Hex Bores Replace Costly Precision Bearings**

Source: THE SCHATZ MANUFACTURING COMPANY
6750 Fairview Avenue, Poughkeepsie, N. Y.

The Schatz Type "A"

Hex bores

The new Schatz Catalog No. 11

IEN-1749

**GRINDING . . Flexible shaft machine on caster equipped base, 5 ft. shaft**

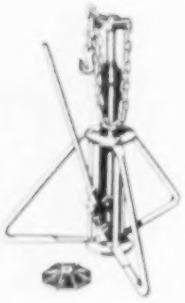
Source: STOW MFG. CO.
441-45 State St., Binghamton, N. Y.

Jiffy Tool

IEN-1750

**JACK . . Hand operated hydraulic rates 1½ ton, lift is 17 inches**

Source: AMERICAN HYDRAULICS INC.
201-5 N. Wabash Ave., Chicago 1, Ill.

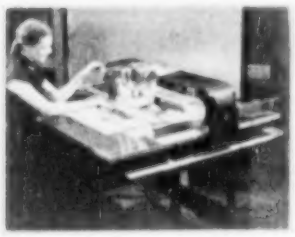


Tripod Special

IEN-1751

**PRINTING . . Type selector machine prints a letter at a time on flat bed**

Source: REYNOLDS PRINTASIGN CO.
606-10 S. Dearborn St., Chicago 5, Ill.



Six alphabets

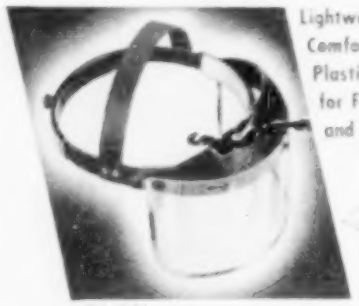
IEN-1752

**MIXING . . Pneumatic motor mounts in swivel clamp, drives impeller**

Source: ARO EQUIPMENT CORP.
107-11 Madison St., Bryan, Ohio

Aluminum impellers

IEN-1753



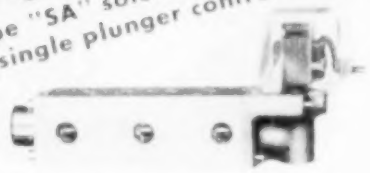
Lightweight, Comfortable Plastic Protection for Face, Head and Eyes

WILLSON

Willson Products, Inc., 217 Washington Street, Reading, Pa.

IEN-1754

**NEW type "SA" solenoid pilot operated single plunger control valves**



- smaller, shorter stroke solenoids — lower amperage
- simpler electrical controls — high air economy . . .

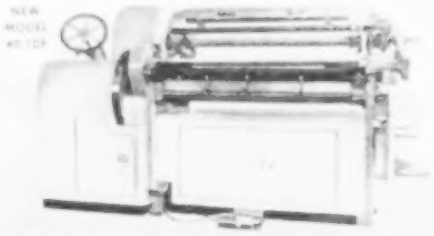
C. B. HUNT & SON, Inc.

"The Higher the Pressure — The Tighter the Seal"

**Quick-As-Wink**
AIR AND HYDRAULIC CONTROL VALVES

IEN-1755

HOW TO **Boost Sales** OF SMALL ROLL PRODUCTS



**Camachines** . . . the world over

IEN-1756

# WANTED!

TOUGH METAL CUTTING JOBS BY *Molyflex* STAR'S NEW SHATTERPROOF HIGH-SPEED BLADES

Eat their way . . . easier . . . faster . . . through any metal cutting job you may have!

In recent tests these hand blades averaged 25.8% more metal cut than all leading brands tested. Absolutely shatter-proof! A cinch to help you cut costs and speed up those tough metal cutting jobs.

STAR STEELRITE METAL MARKING CRAYONS

Try Star's new metal marking crayons. Ideal for use on hot, cold, damp or grimy metal. Withstand pickling, yet do not affect enamel application.

Star's Metal Cutting Booklet and Wall Chart are yours for the asking and will help you get top efficiency from hack saw blades.

CLEMSON Bros., Inc. • Middletown, N.Y.

MAKERS OF HAND AND POWER HACK SAW BLADES, FRAMES, METAL CUTTING BAND SAW BLADES AND THE CLEMSON JAWN MACHINE

IEN-1757

# RESTORES damaged... rusty... flat... battered THREADS

NOW in 3 Sizes

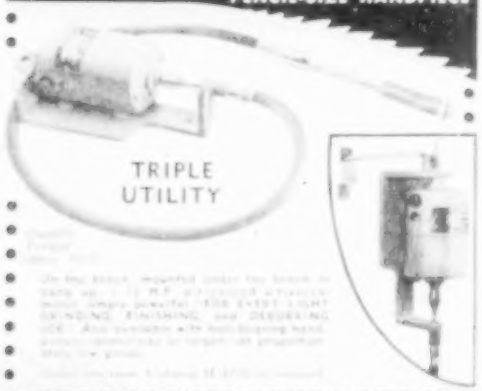
BUCKINGHAM MANUFACTURING CO., INC.
75-77 Travis Street Binghamton, N.Y.

IEN-1758

NEW MODEL • NEW FEATURES . . . Sensational LOW PRICE!

FOREDOM FLEXIBLE SHAFT MACHINE No.9050

ONLY $27.95 Complete with FOOT RHEOSTAT and Quick-Detachable PENCIL-SIZE HANDPIECE




FOREDOM ELECTRIC CO. Dept. M-4126
27 Park Place, New York 7, N. Y.

IEN-1759

## LATHE ATTACHMENT . . Turret assembly hand operated for company's lathes

Source: SOUTH BEND LATHE WORKS
301 E. Madison St., South Bend 22, Ind.

IEN-1760

## CALCULATING . . Six inch slide rule has laminated vinylite body and slide

Source: J. R. CARROLL CO.
6059 Carroll Ave., Chicago 12, Ill.

IEN-1761

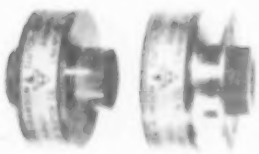
## HAMMER . . Pneumatic tool for chipping service. 1 to 3 in. stroke

Source: ROTOR TOOL CO.
17323-27 Euclid Ave., Cleveland 12, Ohio

IEN-1762

## DRIVE . . Centrifugal clutch 1/16 to 20 hp., friction drive design

Source: CENTRIC CLUTCH CO.
20-24 State Ave., N., Crafton, Pa.



IEN-1763

# Hydraulic Dynamometers

for EXACT PERFORMANCE DATA on prime movers!

HI-EFF

Write for Bulletin No. 760

TAYLOR DYNAMOMETER & MACHINE CO.
2109 WEST CENTER STREET MILWAUKEE 10, WIS.

IEN-1764

# Ford reports . . .

## A $75,000 per year saving with Kodagraph Autopositive Paper

Before . . .

Now . . .

Learn the whole story . . .

Write today for free booklet . . .

EASTMAN KODAK COMPANY
Industrial Photographic Division, Rochester 4, N.Y.

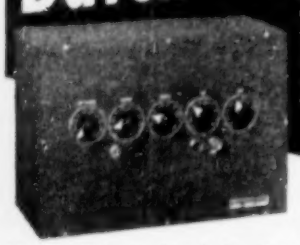
Kodagraph Autopositive Paper

The Big New Plus in Engineering Drawing Reproduction

Kodak TRADE-MARK

BREVITY—Identify by IEN-1766 if you write the maker

# Automatic Batch Counter



Counts tens, dozens, hundreds or any predetermined quantity and automatically controls marking, separating or packaging equipment

MONITOR Automatic BATCH COUNTERS

*Monitor Electric Batch Counter,* counts any *BATCH Quantity* of parts, packages, sheets, measurements or operations and automatically controls Batch Marking or separating devices, pile changers, kick out devices, conveyors, etc., without slowing down production or missing a single count.

Proved thru more than ten years use. Extremely adaptable. Tell us what you want to do or send for Bul. MBC-52.

32 pages of Batch Counting Case Histories, application information, etc. Send for Bul. MBC-52.

*Production Instrument Company*

700-10 W. JACKSON BLVD., CHICAGO 6, ILL.

**Representatives in Principal Cities**

BREVITY—Identify by IEN-1767 if you write the maker

"SIX TIMES FASTER THAN OUR PREVIOUS METHOD," reports a prominent conveyor-maker of California. They now use Bostitch H2 Stapling Machines instead of hammer and nails to fasten backup and heavy paper to wooden crates. Crates are 6 feet tall and weigh from 70 to 450 lbs.

PAYS FOR ITSELF IN A FEW MONTHS

SEALS ON THE INSIDE ENTIRELY FROM THE OUTSIDE

PROFITS ARE MADE IN SHIPPING ROOMS THROUGH SAVINGS

ATTACH THIS COUPON TO YOUR LETTERHEAD

BOSTITCH, 819 Mechanic Street, Westerly, Rhode Island

Please send me:

Name

Title

Firm

Address

City State

**BOSTITCH**

fastens it better with wire

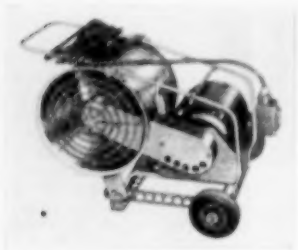
ALL TYPES OF MACHINES FOR APPLYING STAPLES

ALL TYPES OF STAPLES APPLIED BY MACHINES

BREVITY—Identify by IEN-1769 if you write the maker

## VENTILATING . . Portable fan in 14 in. housing, suction or pressure

Source: MINE SAFETY APPLIANCES CO.
21 Braddock Ave., Pittsburgh 8, Pa.



**Ventilating air** can be driven into a confined space or smoke, stale air and fumes can be drawn out by application of this new portable fan. It is mounted in a cylindrical housing and can be supplied with engine or motor drive, the latter direct or belt connected. Standard equipment includes a 16-ft. length of 14-in. collapsible canvas duct treated to resist attack by flame or mildew. The duct can be rolled up when it is not attached to the outlet or intake side of the fan housing. The belt-connected machine will take a maximum of 32 ft. of the duct.

**Air delivery** in pressure operation through the duct is 4,000 cfm. on the engine or motor-driven belt-connected machine, it is 3,300 cfm. on the direct-connected design. Overall dimensions in the two designs are 19 by 30 by 23 in., and 15½ by 19 by 23½ inches. The motor is available in open or explosion-proof design for operation on 110 or 220 volt 60-cycle ac.

BREVITY—Identify by IEN-1770 if you write the maker

## THERMOMETER . . Thermocouple unit uses dc. millivoltmeter, to 650 deg. F.

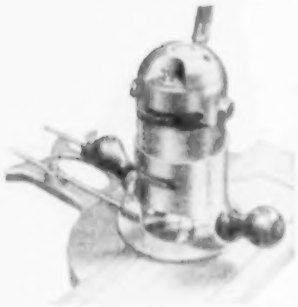
Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

**Oven Tester** designates new electric thermometer assembled in a housing also containing a compartment to hold a 5-ft. set of leads of color-coded iron-constantan wire equipped with a holding clip at the end. The thermocouple junction is surrounded by a radiation shield. Readings are made on the 1½-in. scale of the 3½-in. square-flange dc. millivoltmeter. Accuracy is within 2½ per cent of full-scale value for the new unit.

BREVITY—Identify by IEN-1771 if you write the maker

## WOOD WORKING . . Router-shaper ½ hp. universal motor, 18,000 rpm.

Source: STANLEY ELECTRIC TOOLS DIV.
478-82 Myrtle St., New Britain, Conn.



**No. 28** is a new router designed to perform a variety of wood-working operations. It mounts a ½-hp. universal motor with vertical adjustment for cut depth at the threaded motor housing. Bearings are sealed ball design. A fan drives air to keep the motor cool and the work surface clean. The cutting tool is held in a collet.

BREVITY—Identify by IEN-1772 if you write the maker

## HANDLING . . Wheel mounted stacker receives, aligns cut strips from shear

Source: FRIED STEEL EQUIPMENT MFG. CORP.
526-30 E. 119th St., New York 35, N. Y.

**Strip Stacker**, truck type, designed as an equipment for application back of a shearing machine preferably with the company's Storypoint to receive and stack the cut pieces. The base of the mounted frame is 30 in. in width and normally 10 ft. in length or other dimensions to apply with given shearing equipment. It supports a frame 18 in. in width that carries adjustable receiving racks into which the sheared work drops. The unit will take strips as narrow as 1½ in. to the 10 ft. length and will stack them evenly and rapidly.



BREVITY—Identify by IEN-1773 if you write the maker

## Have you a similar use for this 1-piece fastener?

**It's a Blind Rivet**—Locks and unlocks with a 90° clockwise rotation. No more nuts to lose.

**It's a Refrigerator Shelf Support**—Any head can be made without affecting principle.

**It's a Cabinet Door Strike**—Simple to install, shelves assembly cost, eliminates welding.

**What's Your Application?**—Tell us how you can use Spring-Lock, we'll work out details.

Millions of these ingenious Spring-Lock Fasteners are used in electrical, automotive, railroad, aviation and household appliance industries. Design engineers marvel at their utility and flexibility. Write today for literature and free samples.

**SIMMONS FASTENERS**

SPRING-LOCK • QUICK-LOCK • ROTO-LOCK

Simmons Fastener Corp., 1758 N. Broadway, Albany 1, N. Y.

BREVITY—Identify by IEN-1774 if you write the maker

**SAFETY MEANS ECONOMY IN PRODUCTION . . .**

**ARREST THAT DUST!**

IN YOUR

GRINDING
BUFFING
POLISHING

OPERATIONS!

AR-54 "AIR-RESTER"

Here's the SELF-CONTAINED CYCLONE EQUIPPED STANDARD "AIR-RESTER" for use wherever abrasive dust is involved.

This machine with its material handling fan costs no more than less efficient dust collectors with air handling fans!

Models available in 450, 1000 and 2000 C.F.M. of high velocity. Cleaned air may be returned to room or ventilated to outside.

CODE EXPLANATIONS:

C — Cyclone
F — Flame proof Filtering Pads
DE — Drawer Enclosure
D — Removable Drawer
M — Motor
SF — Suction Fan
G — Removable Grille

Work Safely! Write today for Bulletin AR-7.

IMMEDIATE DELIVERY

**THE STANDARD ELECTRICAL TOOL CO.**

2469 RIVER ROAD CINCINNATI 4, OHIO

BREVITY—Identify by IEN-1775 if you write the maker

FOR VENTILATION, FUME & DUST CONTROL

**FLEXAUST**

SPIRAL-REINFORCED HOSE LIGHT, STRONG AND VERY FLEXIBLE

Flexaust is of proven suitability for a wide variety of suction and pressure uses in ventilating, fume and dust control.

EXTREMELY EASY TO INSTALL—EFFICIENT AND ECONOMICAL IN USE

SIZES 1½" to 24" dia.

Various Flexaust types, accessories, and other hose types also available:

BIOFLEX — Non-reinforced collapsible hose

PORTOVENT — Ring-reinforced retractable hose

*Write for full descriptive data and prices*

**AMERICAN VENTILATING HOSE CO.**

Dept. IE-2, 15 Park Row, New York 7, N. Y.

Plant: Amesbury, Mass.

BREVITY—Identify by IEN-1776 if you write the maker

The ABRASIVE 18" Face Grinder is a real money maker. It's fast to set up — there's no time lost adjusting stops or gadgets. You can use it for heavy cuts or fine finishing and you get a flat, square surface every time. The 15 h.p. motorized spindle uses no gearing or belting . . . furnishes exceptionally powerful drive where it counts. Hand feed eliminates table overrun, cuts production time. The ABRASIVE 18" handles big work, odd shapes and special fixtures. For complete information and work capacity charts, write Abrasive Machine Tool Co., 18 Dunellen Rd., East Providence 14, Rhode Island.

ABRASIVE — ACCURACY BOOSTS PRODUCTION

*Abrasive Quality is Reflected in the Finish of Your Product*

BREVITY—Identify by IEN-1777 if you write the maker

BREVITY—Identify by IEN-1778 if you write the maker

**UPTEGRAFF**

# Dry Type Transformers

for Indoor or Outdoor Service

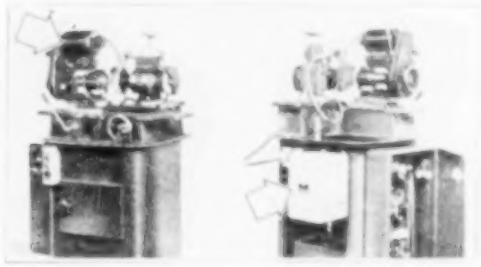
Write for illustrated Bulletin

**R. E. UPTEGRAFF MANUFACTURING CO.**
THOMAS STREET . . . . SCOTTDALE, PENNSYLVANIA
Makers of Power · Distribution · Instrument · Specialty Transformers

BREVITY—Identify by IEN-1779 if you write the maker

## GRINDING . . Sharpening machine for helical and radial form relief

Source: ROYAL OAK TOOL & MACHINE CO.
621 E. Fourth St., Royal Oak, Mich.



**Motor drive** has been added to the company's previously developed radial relief form grinding machine to rotate the work head. The motor and control are G. E. Thyrectrol units for stepless speed variation at the head spindle between 18 and 150 rpm. New coolant equipment has been added to the machine also for wet operation.

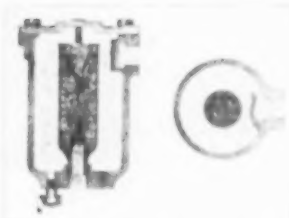
**The work head** is pivoted on its base and also is mounted on a vertical center so it will move to the side and periphery of the grinding wheel to produce both radial and helical relief. The movement is by interchangeable cams on the head for cutters having 1 to 14 flutes. The head spindle takes interchangeable collets with work diameter capacity to 1¼ inches. Maximum diameter of work that can be mounted between centers is 8¾ inches.

**In addition** to radial and helical relief grinding, the machine can be employed for any standard cutter-sharpening within its capacity. It mounts a table measuring 8½ by 28½ in. with 12½ in. of longitudinal movement. The wheel head is slide mounted for 5½ in. of cross travel and 5¼ in. of vertical movement. The work head can be rotated through 360 deg. for positioning at any desired angle in relation to the two grinding wheels on the machine.

BREVITY—Identify by IEN-1780 if you write the maker

## SEPARATING . . Air line filter removes impurities from compressed air

Source: INDUSTROL CORP.
88-37 76th Ave., Brooklyn 27, N. Y.



**Air enters** a baffled opening in the housing side of this new separator. It is turned to move in a circular path in the housing to throw particles of oil and water to the outside wall from where they drain to the bottom. The air passes through a porous stainless steel cartridge where remaining particles of liquid are removed to drain downward also. Finally it passes through a charge of Sorbead in the center of the cartridge where any remaining oil vapor is absorbed. Clean dry air issues from the bottom center of the housing.

**Five sizes** apply in ¾ to 3 in. pipe lines, provide capacity for 50 to 1,000 cfm with operating pressure at 80 to 125 pounds. Dimensions are 7 by 10 in. to 14 by 40 inches. List price is $100 to $310. A trap for connection to the drain to keep the housing clear lists at $5. Maximum working pressure is 150 pounds. Pressure drop is 8 in. of water.

BREVITY—Identify by IEN-1781 if you write the maker

## CLEANING . . Portable vacuum machine for wet or dry pickup, universal motor

Source: GENERAL ELECTRIC CO.
1285-87 Boston Ave., Bridgeport 2, Conn.

Model AVL10-WF

Designed for low noise operation, this vacuum cleaner is equipped with a 1/12 whirl, 1/12 air motor to assist and stabilize the air as it is exhausted through a filter. The metal container holds 10 gal. of water. There is also a 5-gallon model and a 10-horsepower model for heavier jobs, both equipped for operation on 115/60 cycle. The motor drives a motor-blower at 1,625 generates vacuum up to 40 in. of water for suction.

The machine comes 15 in. in diameter by 27½ in. as shown. It weighs 25½ pounds. Standard equipment includes a set of dry pickup tools. Wet tools can be added to specifications.



BREVITY—Identify by IEN-1782 if you write the maker

## DON'T BE A SLAVE TO LIGHT SWITCHES

You don't have to turn the sun on and off. Why not forget about your electric lights, too, by installing G-E Time Switches?

YOU'LL SAVE on the time and trouble of switching your lights manually.

YOU'LL CUT POWER COSTS that result if other users leave your lights on unattended.

General Electric time switches are ideal for general lighting, street lighting, parks and school rooms, floodlighting, and many other uses. Check which two juggers suitable.

**TIME SWITCHES**

The T-27 Time Switch: up to 12 operations per day. Information-data available.

The T-47 Time Switch: from 3 minutes to 22 hours between ON and OFF operations.

Ask your G-E representative to show you the way to greater savings with time switches. Apparatus Dept., General Electric Co., Schenectady 5, New York.

**GENERAL ELECTRIC**

BREVITY—Identify by IEN-1783 if you write the maker

## THIS BOOK CAN SAVE YOU MONEY ON QUALITY NAME PLATES

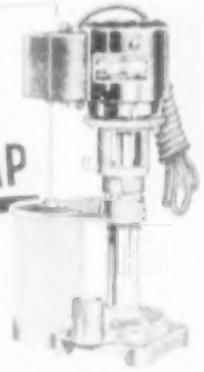
Etched or lithographed on metal. Low quality name plates add sales appeal to your product . . look better, longer. You can save money by using one of the 3000 shapes and sizes for which we have dies in stock. Ask us to quote on your name plate requirements. If you can use this book of stock shapes and sizes, write for it on your letterhead.

ETCHING COMPANY OF AMERICA
1320 Montrose St., Chicago 13, Ill., Dept. P-2
SUBSIDIARY OF SONGE MANUFACTURING CORPORATION, MISHAWAKA, INDIANA

BREVITY—Identify by IEN-1784 if you write the maker

*Sutton* COMPLETELY AUTOMATIC BRONZE ELECTRIC

# SUMP PUMP



Pumps Accumulated Liquids From Shallow Sumps and Tanks

- Starts automatically when liquid rises . . . stops when liquid is pumped out.
- Parts below motor are high grade bronze . . . resistant to most liquids.
- Portable and easily installed in many applications.
- Rugged reliable motor. Totally enclosed. Rubber cord and plug.
- G.E. operating switch. Totally enclosed float assures positive operation. Adjustable stops regulate pumping level desired.
- Safety screen prevents clogging.
- Auxiliary bearing above liquid level . . . no bearing in liquid.
- Pumps 7½ gal. per min. at 2 ft. head, 7½ gal. per min. at 5 ft. head.
- Inexpensive to operate. Compact. Built to highest engineering standards.

Model SPAS-110

| | |
|---|---|
| Height | 15 in. |
| Base Size | 8 x 8¼ in. |
| Discharge | ½" pipe |
| Liquid level rise | 7 in. |
| Motor | 1/15 H.P. |
| Weight | 19 lbs. |

Write for catalog No. 40, describing this and other small bronze pumps.

**Sutton Manufacturing Corp.**
112 W. WILSON AVENUE NORFOLK, VIRGINIA

IEN-1785


**Completely New!**

An Entire Series of NEW, SMALL ROTARY SWITCHES By Diamond H

Both Types Available in These Circuits

NO OTHER SWITCH WILL GIVE YOU ALL THESE LONG-WANTED FEATURES

THE HART MANUFACTURING COMPANY
203 Bartholomew Ave., Hartford, Conn


IEN-1786


*Here's where to get...*

USEFUL HOIST DATA

This new Chester Hoist Catalog gives you complete information for selecting the right hoist for the job. For example,

- Capacities available (open geared and differential)
- Lift prices
- Regular lift in feet
- Standard distance between hooks
- Reach in feet and inches
- Chain pull in lbs of load
- Hoist or chain accessories No. 1 to 50
- Test load to operate

*Send for your copy today*

THE NATIONAL SCREW & MFG. CO.
Chester Hoist Div. Lisbon, Ohio


IEN-1787


**CUT SPRAY PAINTING COSTS**

**SPEED UP PRODUCTION**

ELECTRO-FORMED METAL MASKS

CONFORMING MATRIX CORPORATION
310 Toledo Factories Building, Toledo 2, Ohio

I am interested in metal masking sheets. Please send without obligation further information, quotation on masks for parts or plates which I am forwarding.

NAME
FIRM
STREET
CITY & STATE


IEN-1788

**UNLOADING . . Motor driven shaker speeds the unloading of a hopper car**

Source: AMERICAN ENGINEERING CO.
2476 Aramingo Ave., Philadelphia 25, Pa.

IEN-1789

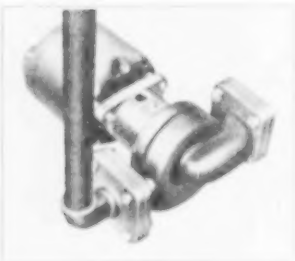
**CONVEYING . . Motor driven belt unit, sectional for incline or horizontal use**

Source: STANDARD CONVEYOR CO.
64 Indiana Ave., North St. Paul 9, Minn.

IEN-1790

**HEATING . . Centrifugal pump promotes circulation of hot water**

Source: FAIRBANKS, MORSE & CO.
600 S. Michigan Ave., Chicago 5, Ill.



IEN-1791

**CIRCUIT BREAKER . Single units and multiple assemblies to 42 circuits**

Source: SQUARE D CO.
6059-62 Rivard St., Detroit 11, Mich.

IEN-1792


The Aerotec Family OF DUST COLLECTORS

All inquiries should be sent to:

THE THERMIX CORPORATION
GREENWICH, CONN.

THE AEROTEC CORPORATION
GREENWICH, CONNECTICUT


IEN-1793


HERE'S YOUR *Complete* STEAM PLANT

Superior STEAM GENERATOR


IEN-1794


**CUT POWER COSTS!**

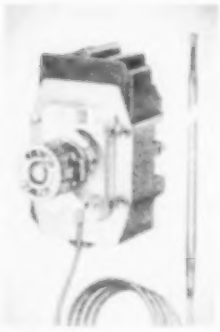
with SPRAGUE POWER FACTOR CAPACITORS

SPRAGUE ELECTRIC COMPANY
NORTH ADAMS MASS.

IEN-1795

# New Robertshaw 3 in 1 Control

FOR ELECTRIC RANGE OVENS



**1** AUTOMATICALLY

**2** AUTOMATICALLY

**3** AUTOMATICALLY

Robertshaw
THERMOSTAT DIVISION
ROBERTSHAW-FULTON CONTROLS COMPANY
YOUNGWOOD, PENNSYLVANIA

IEN-1796

HOW AN AIR SANDER IS DESIGNED FOR
**Top Performance**
with
**BURD**
**"Graf-Flox"**
**PISTON RINGS**

High Efficiency of 2-Ring Piston Set-up Maintains Reciprocating Speeds at 2500 S. P. M.

Exclusive Surface Treatment Eliminates Break-in

Why Burd "Graf-Flox" Piston Rings Offer Profitable Advantages

Engineering Assistance

BURD PISTON RING COMPANY

BURD Automotive and Industrial PRODUCTS

IEN-1798

TRUCK . . Power lift fork design for use in confined spaces, rates 1 ton

Source: MERCURY MFG. CO.
4132 S. Halsted St., Chicago 9, Ill.

IEN-1799

PLASTIC . . Dynel staple fiber for apparel, home, industrial fabrics

Source: CARBIDE & CARBON CHEMICALS DIV.
30 E. 42nd St., Rm. 1213, New York 17, N. Y.

Ask for Dynel Technical Data

IEN-1800

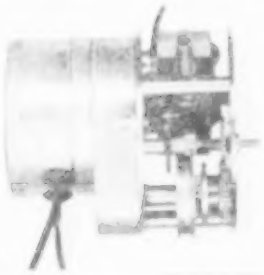
SANDING . . Portable electric tool for intermittent duty, 7 inch disc

Source: BLACK & DECKER MFG. CO.
715 E. Pennsylvania Ave., Towson 4, Md.

IEN-1801

MOTOR . . Geared head synchronous includes a magnet operated clutch

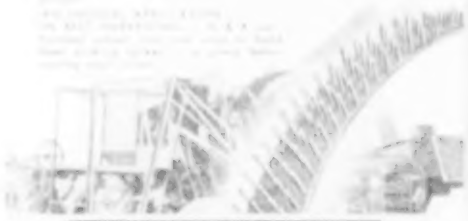
Source: R. W. CRAMER CO.
49 Saybrook Ave., Centerbrook, Conn.



IEN-1802

Any Perforation • Industrial or Ornamental

H & K
PERFORATED METALS
(and Sheet Materials)



The Harrington & King Perforating Co.

IEN-1803

Improved Method Centrifugal SPRAY DRYER and CONCENTRATOR*

THE DRYING AND CONCENTRATING COMPANY DRYER

DEHYDRATING

*CONCENTRATOR AVAILABLE SEPARATELY

DRYING and CONCENTRATING CO.

IEN-1804

Cut maintenance costs in YOUR plant.....

with a **NEW HEIN-WERNER** double-acting G.A.C. push or pull

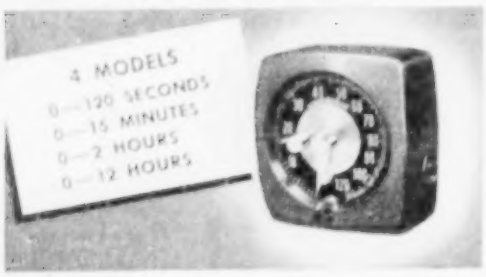
**HYDRAULIC UTILITY UNIT**

HEIN-WERNER CORP., Waukesha, Wis.

IEN-1805

# NEW GENERAL ELECTRIC *Automatic* INTERVAL TIMER

(TYPE T-48)




*FOR ACCURATE TIMING, AUTOMATIC CUT-OFF*

The versatile new G-E Interval Timer with four different time ranges that an almost limitless range of applications for industrial, laboratory, and home applications like a for timing, baking, and mixing processes, photographic work, lamp control and many other uses. Adjustable time cycle. Push button start, automatic cut-off. Compact, rugged construction, supplied with plug. Basic unit for quick, easy, repetitive work. Expanded uses for greater versatility. Operates on 110-120 volt, 60 cycle, maximum load 1200 watts. $13.95

Send for Bulletin

For quotations GEA-7138 write Section 602-83, Appliance Dept., Capacitor Div., Fort Edward, N. Y.

GENERAL ELECTRIC

IEN-1806

# HANSEN

## "PUSH-TITE" PNEUMATIC-HYDRAULIC COUPLINGS

Positive shut-off in socket connects upon disconnection by a manual or plug. To connect simply push plug into socket. To disconnect, merely pull back sleeve. Holds high pressure sealed when disconnected. Eliminates contamination. Fast or hose connections. Socket bores. Plug steel. Size range ¼ to 1".

Also drain-shut and non-shut-off couplings. Write for catalog.

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 11, OHIO

IEN-1807

# *What Shapes—* IN SMALL METAL TUBING

*Superior*
THE BIG NAME IN SMALL TUBING

SUPERIOR TUBE COMPANY

IEN-1808

## TRUCK . . Container grab attachment for 1½ ton power lift fork truck

Source: YALE & TOWNE MFG. CO.
4528-32 Tacony St., Philadelphia 24, Pa.

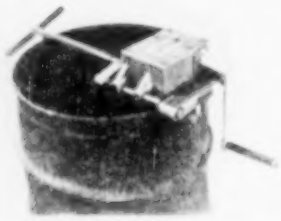
Hinged arms on the grab attachment are operated by a pair of cylinders, such as the one shown in the illustration, to grip a number of items and hold them for ease in transportation, and stacking. The grab-type operation, from overhead, can pick containers from the top of a pile. It is noted particularly for loading and unloading trucks and for stacking authors the use of pallets. It can be supplied for the company's Worksaver battery-powered hand truck.

The truck itself stands 80 in. in height, measures 78 by 38 inches. It travels at 3 mph. free, 2 mph. with a capacity 1½ ton load. Vertical movement loaded is 15 ft/m. Control centers at the end of the steering handle. A brake is set to prevent coasting downgrade when the handle is released or moved up.

IEN-1809

## CUTTING . . Circular blade machine, hand driven, to cut out steel drum head

Source: SCHINKER MFG. CO.
6512-16 S. Western Ave., Chicago 36, Ill.



The rubber on the bottom face of this new from head after a locked up by a steel cover and is recited for removing a crack. The cutter bears against the inner face of the head on a steel drum. It cuts through the metal and flanges if a cut needed to permit a smooth surface when the drum head has been removed. Applications can be made on 10 to 30 gal. drums with steel to 16 gage.

IEN-1810

## GAGE . . Universal measuring unit to lay out, check, level, scribe

Source: L. S. STARRETT CO.
100 Starrett St., Athol, Mass.

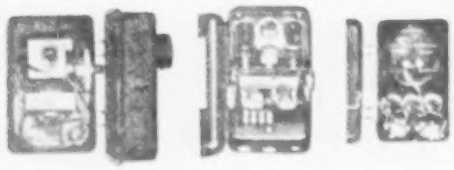
No. 993 is a new patented gage for use by inspectors, tool makers, machinists, from use in everyday measuring and checking operations. It consists of a forged steel base fitted with a hardened steel and a combination of Vee and straight way on the bottom face. A forged steel wide rules in this case, clamps in adjustable positions, allows for opposite a knurled nut to clamp positions.

The slide carries a measuring line, a scribe and takes a dial gauge. The adjusting screws are engine fit to measure from the 3/8 in. width of the rule to 6 inches and are graduated 0.001 in. per

IEN-1811

## SIGNALING . . Photoelectric indicator reads smoke density in flue to chimney

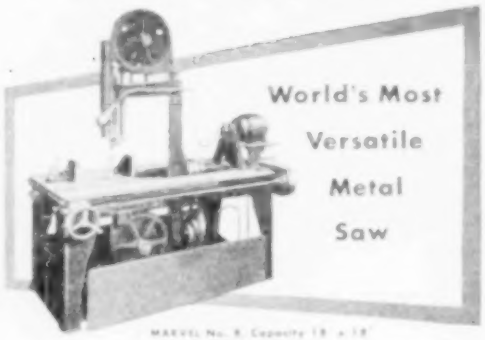
Source: PHOTOSWITCH INC.
75-79 Broadway, Cambridge 42, Mass.



Type 'MM' is a new combination of photoelectric cell and amplifier, which will fire relays and other equipment when the density of smoke in a flue or chimney reaches a predetermined value. Type 'MM' is a self-contained unit, requiring only a source of power and a light source. Sensitivity is adjustable and can be set to operate at any density from 0 to 100 percent. Response time is 1 sec. or less. Operating voltage is 115 volts, 60 cycle. Power consumption is approximately 10 watts. Dimensions are 4 in. wide, 4 in. deep, 6 in. high. Weight 3 lbs. Price $[illegible]

For Models of Plants and Equipment Products See Listed in Company Register — Manufacturers — Ratings — See Page [illegible]

IEN-1812




MARVEL No. 8. Capacity 18" x 18"

There is no other sawing machine like it. The work remains stationary. The blade is guided with a 90° twist and power fed vertically through the work. The saw blade and column can be instantly swung and clamped at any angle to 45° either right or left from vertical for miter cutting.

The number 8 MARVEL saw will handle the smallest, as well as the largest work up to 18" x 18". It will cut-off, trim, miter, notch, and split all bar stock, pipe, structural sections, moulding, tubing, or irregular shapes.

Write for our catalog, containing valuable information, enabling you to select a metal saw best suited to your work.

MARVEL SAWS

ARMSTRONG-BLUM MFG. CO.
*The Hack Saw People*
5700 Bloomingdale Ave. Chicago 39, U. S. A.

IEN-1813

# Chemical Resistant RUBBER PARTS

FEATURE LONG SERVICE LIFE UNDER HIGHLY CORROSIVE CONDITIONS

Excellent resistance to chemicals, both concentrated and diluted, is feature of rubber parts fabricated from the new STALLITE 861 compound. This new rubber is recommended for parts subject to aniline, acetone, ethyl chloride, and numerous other chemicals.

STALLITE 861 has high resistance to animal fats, vegetable oils, ozone, oxygen, acids, alkalies, steam, extreme weathering, sunlight and dry heat.

STALLITE 861 rubber parts have outstanding flex and abrasion resistance, and dielectric properties make them suitable for use in electrical equipment.

The Stalwart Rubber Company can furnish molded, extruded, and sheet rubber parts fabricated from STALLITE 861 for use as seals and stoppers for chemical containers, gaskets and washers for systems handling highly corrosive acids or alkalies, tubing for installation in corrosive atmospheres, or for conveying dilute or concentrated chemicals.

Write for complete specifications today.

*Specify Stalwart for Quality Custom Rubber Products*
STALWART RUBBER COMPANY
1152 NORTHFIELD ROAD
BEDFORD, OHIO

IEN-1814

# PRODUCTION MEN!

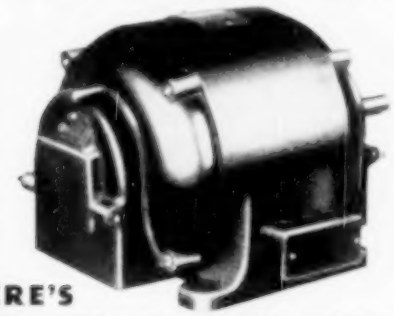
• GET THE RIGHT TAPE FOR YOUR JOB!
• CUT COSTS . . . IMPROVE METHODS!
• GET A SPECIFIC . . .

Polyken
INDUSTRIAL TAPE

Specific Tapes for Specific Uses
• Bundling
• Tying
• Holding
• Sealing
• Insulating
• Weatherproofing
or you name it

Polyken BAUER & BLACK
INDUSTRIAL TAPE

▼ PREFIX—Identify by IEN-1818 in the write-in space ▼



# HERE'S MOTOR EXPERIENCE THAT CAN BE *yours*

• A high percentage of all Peerless Motors are manufactured to meet the specific operating requirements of the equipment with which they are to be used. Answering these motor problems has given Peerless engineers an experience that can be yours when you call Peerless for advice on motor applications.

You will save time, energy and money by turning your motor problems over to Peerless. Call on us by telegram or telephone. Increased engineering and production facilities can be put to work for you promptly.

THE PEERLESS ELECTRIC COMPANY • WARREN, OHIO

*Manufacturers of Quality Motors for more than 35 years*

Single Phase • Polyphase • Direct Current Motors

**Peerless-Electric** MOTORS-FANS-BLOWERS

▼ PREFIX—Identify by IEN-1816 in the write-in space ▼

# *LOOK for

big reductions in costs where opportunities for substantial

# SAVINGS

are greatest . . . in the incredibly rich field of materials handling. For the quick, sure way to achieve them,

# *LOOK to

the fast, sturdy, low-cost machines produced by

# CLARK

▼ PREFIX—Identify by IEN-1818 in the write-in space ▼

## DRIVE . . Variable speed unit connects two V-belts, 3.3 to 1 range

Source: STANDARD TRANSMISSION EQUIPMENT CO
76-80 W. Union St., Pasadena 1, Calif.

**Cub Variable** [illegible] Sheave diameter [illegible] [illegible]

▼ PREFIX—Identify by IEN-1819 in the write-in space ▼

## CUTTING . . Abrasive disc machine and diamond blade for work in masonry

Source: VICTOR ENGINEERING CORP.
1950 Green Lane, Bristol, Pa.

Please note new address

Our previous [illegible] IEN-1819 [illegible]

▼ PREFIX—Identify by IEN-1820 in the write-in space ▼

## THREADING . . Pipe die set, interchangeable dies and ratchet drive

Source: EDW. I. SIBLEY MFG. CO.
220-24 Main St., Bennington, Vt.

**Solid dies** [illegible]

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 56*

▼ PREFIX—Identify by IEN-1821 in the write-in space ▼

# SAVE! SPECIFY "U.S." ALUMINUM WIRE

*Specify* U. S. Aluminum Wires and cables [illegible]

*Write* for free point of information booklet telling all about Aluminum Wires and Cables.

UNITED STATES RUBBER COMPANY

Electrical Wire and Cable Department

ROCKEFELLER CENTER • NEW YORK 20, N. Y.

▼ PREFIX—Identify by IEN-1822 in the write-in space ▼

# *Speed Sweep*

**THE BRUSH WITH THE STEEL BACK**

**Sweeps Cleaner, Faster, Easier**
**Outlasts Ordinary Brushes 3 to 1**

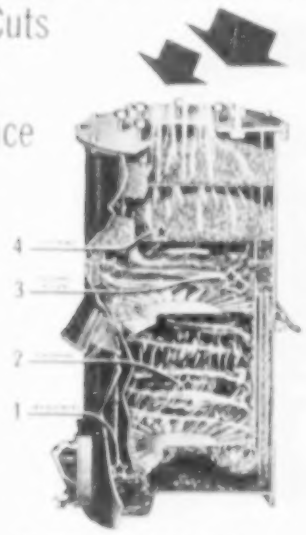
Here is the one and only brush that is special. It designed to do a more thorough sweeping job with less effort. It is also the only brush that is constructed to outlast ordinary brushes. Send coupon today for complete information and prices. *Milwaukee Dustless Brush Co., Milwaukee 7, Wis.*

Milwaukee Dustless Brush Co.
3400 N. 32nd St. • Milwaukee 7, Wisconsin
Send complete data about Speed Sweep brushes.
NAME
ADDRESS
CITY STATE

▼ PREFIX—Identify by IEN-1823 in the write-in space ▼

# Clean Air Cuts Engine Maintenance Costs

• [illegible]




AMERICAN AIR FILTER COMPANY, INC.
233 CENTRAL AVE., LOUISVILLE 8, KY.
In Canada: Sterling Blue, Ltd., Montreal, P. Q.

AAF **Cyclonic** OIL BATH AIR CLEANER AND INTAKE SILENCER

▼ PREFIX—Identify by IEN-1824 in the write-in space ▼

NO MORE PAINFUL SLIVERS

LIKE THESE

*instead harmless granular chips*

LIKE THESE

with the PRATT & WHITNEY KELLER CARBIDE

DI-BUR

[illegible] Pratt & Whitney [illegible] WEST HARTFORD

Branch Offices: [illegible]

KELLER *Carbide* DI-BURS

▼ BREEZE—Identify by IEN-1825 if you write the maker ▼

NOW
small
RECTIFIERS
for
D-C Voltages up to 135 kv

GENERAL ELECTRIC

▼ BREEZE—Identify by IEN-1826 if you write the maker ▼

THERMALLOY* HC-250
OUTLASTS PREVIOUS MATERIAL 4 to 1

Wherever extreme abrasion is a problem, Thermalloy HC-250 can "take it". Here are typical examples.

• *On an asphalt blender application, Thermalloy HC-250 outlasted previous material 4 to 1.*

• *A brick manufacturer reports that for pug mill knives it outlasted other material 5 to 1.*

• *For tube protectors, Thermalloy HC-250 has lasted 11 months, as against 2 months for other materials.*

Get the facts on the advantages of Thermalloy HC-250 under extreme abrasion conditions. Write for Bulletin E-176. Electro-Alloys Division, 1940 Taylor Street, Elyria, Ohio.

*Reg. U.S. Pat. Off.

AMERICAN Brake Shoe COMPANY
ELECTRO-ALLOYS DIVISION ELYRIA, OHIO

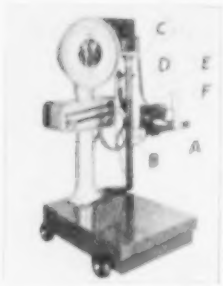
▼ BREEZE—Identify by IEN-1827 if you write the maker ▼

TWIN DISC CLUTCH COMPANY • Hydraulic Division • Rockford, Illinois


▼ BREEZE—Identify by IEN-1828 if you write the maker ▼

## PACKAGING . . Pneumatic equipment delivers liquid by weight into a drum

Source: YALE & TOWNE MFG. CO.
4528-32 Tacony St., Philadelphia 24, Pa.




**The operator** of this new equipment places an empty drum on the scale platform and turns a pneumatic-valve lever to adjust a pointer in the scale mechanism so the dial will read the weight desired in the drum. He operates a second pneumatic-valve lever to bring the fill spout down close to the drum opening and presses a button on a third control valve to start the filling action. As the liquid flows into the drum from its pressure source the dial pointer will move back toward zero position and at a point about 18 pounds from the fixed position the main flow drips to close so the final amount will deliver from a float-controlled gravity tank that is part of the scale assembly. The spout from this tank stops flow when the dial pointer reaches zero. The filled drum can be removed from the platform.

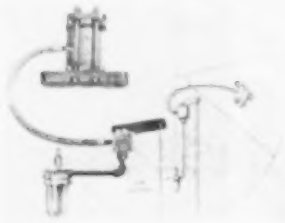
**The main valve** A controlling pressure flow and the fill valve B that delivers into the drum are air operated and are mounted in a manifold with lines C and D leading to and from the gravity tank. The manifold and the housing carrying the two lever-operated control valves E and F and the push-button valve are assembled on a column equipped with a pneumatic cylinder for height adjustment in relation to the drum that is to be filled. The weight-adjusting pointer is assembled on a lead screw at the rear of the scale housing and this lead screw is rotated in one direction or the other by two valve-controlled air jets acting tangentially on a turbine rotor on the screw.

**Operation** requires air pressure of 80 to 150 pounds. Speed is sufficient to fill a 55-gal. drum with SAE30 oil at 95 deg. F. in 40 seconds. Accuracy is within 0.5% handling 442 lb. of the oil into the drum. The fill nozzle cuts off clean, does not drip. Printing equipment can be added to record the net-weight amounts. The air operation is plus of electric action makes the equipment spark safe in dangerous atmospheres.

▼ BREEZE—Identify by IEN-1829 if you write the maker ▼

## VIBRATING . . Kit assembly, vibrator, hose fittings, valve, oiler

Source: CLEVELAND VIBRATOR CO.
2736 Clinton Ave., Cleveland 13, Ohio



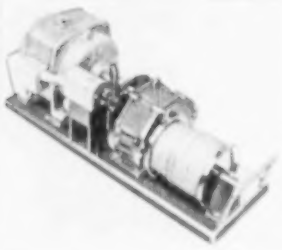
**The six sizes** of pneumatic vibrator in the company's line are now available as part of a kit which includes the required hose fittings but not the hose, a lever-operated pneumatic valve and an air-line lubricator. A kit consists of one vibrator of desired size and the accessory parts, also including means to attach the vibrator itself to the point where its action is to be applied.

**Overall sizes** of the vibrator are 3 to 7½ in. in width, 6 to 15 in. in length. Stroke is 1¼ to 4 inches. Operating rate at 90 lb. air pressure is 2,100 to 750 vpm. Air connection is made to the side of the lubricator.

▼ BREEZE—Identify by IEN-1830 if you write the maker ▼

## WINCH . . Horizontal, motor driven, for line pull from 500 to 1,500 pounds

Source: ST. ANTHONY MACHINE PRODUCTS CO.
2426 E. Franklin Ave., Minneapolis 6, Minn.



**Two unit** operating at a line speed of 50 fpm. with pull rating at 500 and 1,000 lb., drive operating at 110 fpm. with rating at 500 to 1,500 lb. and one operating at 220 fpm. with line pull of 250 lb. make up a new line of Stampco Tugger Winches. Each takes 200 ft. of ¼ in. wire rope on its winding drum. The first drive employs 1 or 3-phase motors rating ¾ and 1½ hp. on 110 or 220-volt ac. The second drive takes 1 or 3-phase 220 or 440-volt ac.

**The motor** is coupled to an enclosed housing in which the drive gears operate, in the one with the drum is assembled on the heavy side of the housing is a rotary gear connecting to a hardening switch and to a mechanical brake. Overall base dimensions are 20 in. by 41 in. by 21 in. Weights range from 215 to 280 lb. for the 3-phase unit to 250 to 320 lb. for the new line.

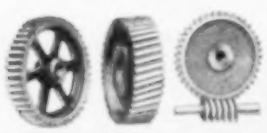
All Names in Caps and All Other Products Are Listed in "Index of Products" — Descriptions — Ratings — See Page 16


▼ BREEZE—Identify by IEN-1831 if you write the maker ▼

..Everything You Want in
CUT GEARS
CUT SPROCKETS
CUT RACKS

ACCURACY
DURABILITY
DEPENDABILITY
SERVICE
SATISFACTION

Industrial
Cut Gears · Cut Sprockets



The Plant that Quality and Service Built

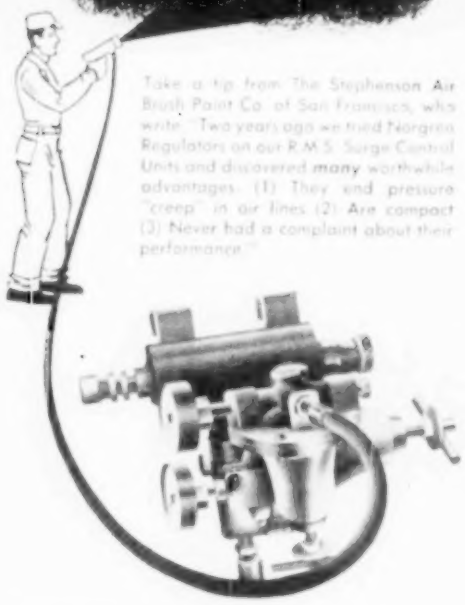
CHICAGO'S FASTEST GROWING GEAR PLANT

INDUSTRIAL GEAR MFG. CO.
4531 VAN BUREN STREET CHICAGO 24, ILLINOIS

▼ BREEZE—Identify by IEN-1832 if you write the maker ▼

STEPHENSON Specifies NORGREN REGULATORS

...because they lick air pressure "creep"



Take a tip from The Stephenson Air Brush Paint Co. of San Francisco, who write: "Two years ago we tried Norgren Regulators on our R.M.S. Surge Control Units and discovered **many** worthwhile advantages. (1) They end pressure "creep" in air lines (2) Are compact (3) Never had a complaint about their performance."

NORGREN
PRESSURE REGULATORS

1. Permit greater air flow at less pressure drop than other regulators of comparable size ports and diaphragm
2. Respond faster without shake or chatter
3. Install quick in air line, downstream without removal from line
4. For inlet pressures of up to 400 p.s.i. to working pressures of up to 250 p.s.i.
5. Types for any liquid, steam, water and fuel systems

Write C. A. NORGREN CO.
232 Santa Fe Drive, Denver 9, Colorado

Norgren
Lubricators, Filters, Regulators, Valves, Hose Assemblies

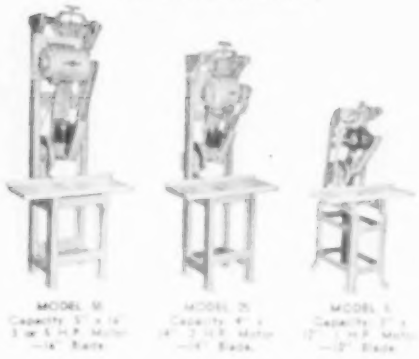
▼ ARRIVE—Identify by IEN-1834 ▼

▼ ARRIVE—Identify by IEN-1835 ▼

H & A Swing Cut-Off Saws make faster, more accurate cross-cuts in dimension stock with 1/3 the power required by pull-push type machine saws that need a much larger blade to clear the motor. Practically effortless to operate — the blade is balanced back to cutting position by the motor.

*Write for Literature, prices and name of nearest dealer. Sold on Money Back Guarantee.*

IMMEDIATE DELIVERY



MODEL M — Capacity 3" x 14" — 3 to 5 H.P. Motor — 14" Blade

MODEL 25 — Capacity 4" x 24" — 2 H.P. Motor — 14" Blade

MODEL S — Capacity 2" x 12" — 1 H.P. Motor — 12" Blade

*Heston & Anderson*

Established 1921

514 W. Kirkwood Street
Fairfield, Iowa

▼ ARRIVE—Identify by IEN-1837 ▼

COUNTING . . Electronic equipment for predetermined total from 1 to 999

Source: POTTER INSTRUMENT CO.
136-58 Roosevelt Ave., Flushing, N. Y.

Model [illegible] is a new [illegible] equipment [illegible] at [illegible] where it will be [illegible] the products on the [illegible] belt. When the unit is [illegible] the equipment [illegible] and actuating [illegible] on the [illegible] memory trip relay for signal or [illegible] action. At this point the counting equipment resets itself in readiness for the [illegible] counting action.

**Four electronic tubes** are employed in this circuit and each tube is accompanied by a neon pilot lamp. This lamp indicates action of the tube in the course of counting. It also indicates tube failure and required replacement. [illegible] Power input is an [illegible] 60-cycle ac.

▼ ARRIVE—Identify by IEN-1838 ▼

PROTECTING . . Grounding conductor prevents static buildup on a worker

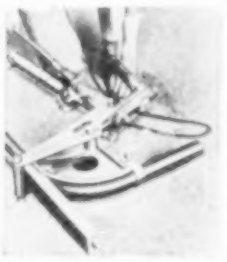
Source: WALTER G. LEGGE CO.
101 Park Ave., Rm. 338, North Wing, New York 17

Nostat [illegible] is worn under the instep of a worker's shoe and around his or her lower leg area to provide a positive discharge path to ground for static charges. The device uses a conductive [illegible] connecting tabs, spring and head clamp, and a [illegible] gap with attachment clips for two shoe sizes. The contact tab is strong but not sharp or [illegible] and is intended positive contact with the floor.

▼ ARRIVE—Identify by IEN-1839 ▼

BENDING . . Hand hydraulic equipment for thin wall conduit, 1 1/4 to 2 in.

Source: BLACKHAWK MFG. CO.
5323-27 W. Rogers St., Milwaukee 1, Wis.



Model [illegible] is a new [illegible] of attachment parts to be employed in use of hydraulic equipment to perform pulling, pushing and bending operations by hydraulic pressure. The new assembly includes the Model [illegible] hand-hydraulic pump and base and the Model [illegible] assortment of bending attachments for thin wall conduit. These attachments include a bending form and arm that are operated hydraulically to wrap the conduit into the desired curvature without permitting it to wrinkle or flatten. The hydraulic pump unit and jack head can be used for other bending operations when they are not in bending service.

▼ ARRIVE—Identify by IEN-1840 ▼

SIGNALING . . Neon sign, individual characters plug into sockets

Source: NECO MFG. CO.
50 Walnut St., Auburn, Ind.

The characters in this new sign assembly are individual units each equipped with connector ends to plug into sockets assembled in a base. The base is available from stock in various sizes for setup to fourteen character positions in one line or to twenty-eight in two lines. Operation is on 110-volt ac. The arrangement permits the user to set up a desired message, and to change it at any time.

All Makers of These and All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 58

▼ ARRIVE—Identify by IEN-1841 ▼

▼ ARRIVE—Identify by IEN-1842 ▼

▼ ARRIVE—Identify by IEN-1843 ▼

▼ BREEFIT—Identify by IEN-1844 if you write the maker ▼

▼ BREEFIT—Identify by IEN-1845 if you write the maker ▼

▼ BREEFIT—Identify by IEN-1846 if you write the maker ▼

▼ BREEFIT—Identify by IEN-1847 if you write the maker ▼

## BOILER . . Two-drum water-tube, 10,000 to 45,000 lb. of steam per hour

Source: SPRINGFIELD BOILER CO.
1899-03 East Capitol Ave., Springfield, Ill.



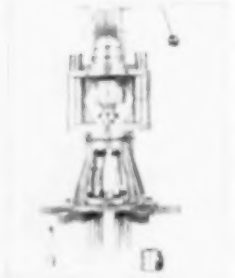
**Type C** designating new design of water-tube boiler, compact and economical, is an aid to simplify selection and shorten delivery schedules in comparison with boilers of similar capacity built to order. Smallest 10,000-lb. unit has overall dimensions that will fit within a space measuring 8 by 19 by 23 feet. The largest 45,000-lb. assembly is greater in width only. It will fit within a space measuring 10 by 19 by 23 feet.

**Products of combustion** enter the tube bank across the complete width of the furnace and remain spread so final exit at the rear of the setting near the top. Thus indicate practically uniform temperature spread at each section in the full travel. Flues under 20,000 lb. employ water cooling for the furnace except in the side walls. Sizes rating 20,000-lb. or more are completely water cooled. Accessory and fitting equipment to meet your requirements can be specified.

▼ BREEFIT—Identify by IEN-1848 if you write the maker ▼

## THREADING . . Multi-spindle head with reversing tap drive, also drills

Source: THRIFTMASTER PRODUCTS CORP.
1046-50 N. Plum St., Lancaster, Pa.



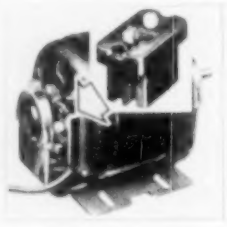
**Tap Or Drill** is a new combination of the company's automatic reverse tapping attachment and one of its multi-spindle adjustable or fixed drill heads. Application can be made to any reverse machine, the chucks supporting the adapter cones for a specified spindle and quill. When taps are inserted, as the chucks the nut are closed on the down stroke and will reverse for retraction on the up stroke. With drills secured in the chucks the rotation is continuous in right-hand direction. Standard assemblies are available with two to ten spindles.

**The universal design** of adjustable head shown in the illustration is made with bronze or ball bearings. The former can be furnished with spindles adjustable on ¾ and 1½ in. minimum centers within a circle to 10½ in. in diameter. Tapping capacity is for No. 8 to ¼ in. taps in cast iron. The ball bearing heads are adjustable on 1¼-in. minimum centers on a 10-in. circle with a tapping capacity to ⅜ in. in cast iron. The drilling and tapping heads can be taken apart and either one used independently.

▼ BREEFIT—Identify by IEN-1849 if you write the maker ▼

## MOTOR CONTROL . . Pushbutton switch combines start and run protection

Source: SPENCER THERMOSTAT DIV.
110-14 Forest St., Attleboro, Mass.



**Klixon C9150** is a new pushbutton switch combining one set of normally-open contacts and a Klixon thermostatic manual-reset protector. The assembly fits into the tube and bell to replace an existing terminal box cover. It provides two pushbuttons, one for start and one for manual stop, for motors from ½ to ½ hp.

**Pressing** the start button closes the first set of normally-open contacts to energize motor and phase winding. At the same time the start button actuates to the manual position and sets the overload protector. Then when the start button is released the protector remains active along with the energized control while the phase winding opens. Thus the motor is in running position the same as it would be operating under the centrifugal start switch which it can replace.

**The second** of the two pushbuttons is pressed to open the protector when the motor is to be stopped and thus the one switch can eliminate the usual start-stop switch. The device meets Underwriters' Laboratories Inc. requirements for motor overload, stoppage and operation.



▼ BREEFIT—Identify by IEN-1850 if you write the maker ▼

The Burt Free-Flow Gravity Ventilator. It can be converted into the Free-Flow Fan Ventilator by the addition of fan barrel section between head and base.

## BURT'S COMPLETE LINE INCLUDES EQUIPMENT FOR EVERY VENTILATING NEED

No one type of ventilator is efficient for all installations. That's why Burt Ventilators include gravity, fan and continuous ridge types in many sizes. That's why Burt's half century of experience and the active help you can expect from Burt engineers are important considerations in selecting your ventilating equipment.

**THE BURT MFG. CO.**
ROOF VENTILATORS • OIL FILTERS
EXHAUST HEADS
909 So. High St., Akron 11, Ohio

SEND FOR CATALOGS
Burt Engineers are glad to help on plans

▼ BREEFIT—Identify by IEN-1851 if you write the maker ▼

A typical piece of form engagement. [illegible] 2.32 min.

[illegible] 2.38 min.

*Can you match these*
# WALES FABRICATOR
**TIME STUDIES with your present methods?**

• These time studies were made under actual production conditions with average operators and were taken at random from hundreds of other similar jobs.

Discover how the Wales Fabricator is paving the way for lower costs. Wales-made Holes New Made Holes compare in simplicity of design and operation, in speed, in fact, that every time and motion is production, averaged at 125 strokes a minute. This from one the Wales operator. Quick Change motion makes possible these startling savings and better tape with Spotter.

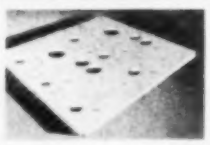
IT'S TOO BIG A STORY TO TELL ON THIS PAGE so write for fully illustrated, free copy of current Catalog 30-A and discover for yourself why prominent users [illegible] Wales Fabricator [illegible] more than [illegible]

WALES-STRIPPIT CORP.
[illegible]
WALES-STRIPPIT OF CANADA LTD.
HAMILTON, ONTARIO
Specialists in Punching and Bending Equipment

VISIT OUR BOOTH 908
at the [illegible] Show in Philadelphia
APRIL 10-14

[illegible] 1.2 min.

[illegible] 37 sec.



[illegible] 6.44 min.

▼ BREF(T)—Identify by IEN-1853 if you write the maker. ▼

# First cost is only a part of the overall cost of your springs

Our customer spring buyers know that the first cost does not present the complete picture of spring cost. Uniformity, ease of assembly into your product, on-time delivery are just a few of the other factors that can affect the ultimate cost of your springs. In some cases a minor modification in design can cut cost without any loss of quality. We at Accurate are sure that our springmaking "know how" and facilities can lower the overall cost of your springs. We have done this for many manufacturers and will be pleased to do the same for you. Phone or write today for prompt attention.

**ACCURATE SPRING MFG. CO.**
3107 W. LAKE STREET CHICAGO 24, ILLINOIS

Accurate Spring — Springs · Wire Forms · Stampings

▼ BREF(T)—Identify by IEN-1854 if you write the maker. ▼

# B.F.Goodrich announces

## TIRE AND WHEEL ANALYSIS PLAN for materials handling

**• HOW IT WORKS**

An experienced tire and wheel man will survey your operation. He will study loads, hauls, handling equipment, floors and hauling surfaces, and discuss any special tire and wheel problems you may have. On completion of this survey the B.F.G. man, without charge or obligation on your part, will recommend the best type and size tires and wheels for your particular service, including suggestions on tire care and maintenance.

**• HOW YOU SAVE**

Tire and wheel costs can be cut up to 50% through the application of the right type, size and tread compound to the job. Studies show improvements can be made in two out of three operations.) Proper tire maintenance alone can cut tire and wheel costs 10% to 20%.

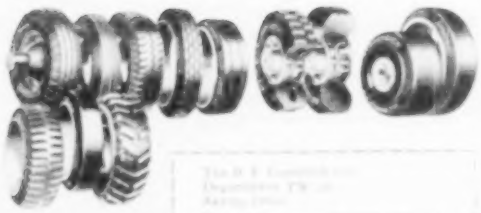
**• WHY YOU GET IMPARTIAL RECOMMENDATIONS**

No other company offers as wide a range of types, sizes, and tread compounds as B. F. Goodrich. There is no selfish reason for a B. F. Goodrich man to push any one type of tire against another. He has them all. His advice is impartial.

**• 14 TYPES OF TIRES — 6 DIFFERENT TREAD COMPOUNDS**

B. F. Goodrich offers a complete line of tires for materials handling equipment—pneumatic, pneumatic-solid, cushion tires, solid, including pneumatic and vulcanized on tires, zero pressure types, foam pneumatics. There's a wide choice of tread designs to each type and 6 different tread compounds for 6 different purposes in the wide tires. Only B. F. Goodrich has this complete line of types, compounds and sizes.

Take—send the coupon for information on the new and proven Tire and Wheel Analysis plan. A similar program is available for manufacturers of materials handling equipment.



The B.F. Goodrich Co.
Department TW-10
Akron, Ohio
Please send me information covering the new Tire and Wheel Analysis plan.
Name
Firm
Address
City
Industry
Title

B.F.Goodrich

▼ BREF(T)—Identify by IEN-1856 if you write the maker. ▼

## PUMP . . Portable vane design, motor driven, to drain oil reservoirs

Source: LOSTRO INC.
75-79 Church St., Newtown, Ohio

**Minute Oil Changer** is a new assembly of Lostro-type pump, motor, intake tube, discharge tube and flexible tube in one extension. Some discharge and intake are 1/4-inch inside diameter. The motor is enclosed in a metal-equipped housing permitting a portable electric unit. A three-wire extension cord and plug complete the assembly.

**The intake tube** is inserted in an oil reservoir through the fill opening as in the crankcase of a gasoline engine and the pump motor operates to drain the oil out and deliver it into suitable receiver. There is no need to remove the drain plug. The tube is about 27 in. in length to provide reach required to get to the bottom of the reservoir and into corners. Length of the pump and motor is about 8 inches. Diameter is 5 inches. Weight is 5 pounds. List price is $[illegible]

▼ BREF(T)—Identify by IEN-1857 if you write the maker. ▼

## MARKING . . Engraved dies with characters sunken or in relief

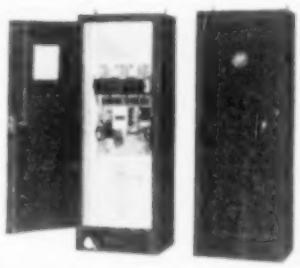
Source: ACROMARK CO.
7 Morrell St., Elizabeth 4, N. J.

A master is engraved in an engraving machine to produce a recently improved line of marking dies to which the characters are raised or sunken so as impress in molds as well as use in use in stamping identification in finished work. Sizes are to specification with reduction from the master to ratios of 1 to 10 to 1. The material is alloy tool steel. Each die is ground after hardening.

▼ BREF(T)—Identify by IEN-1858 if you write the maker. ▼

## MOTOR CONTROL . . AC. starters, solenoid operated, 600 and 900 amperes

Source: ALLEN-BRADLEY CO.
1312 S. 2nd St., Milwaukee 4, Wis.



**Sizes 6 and 7** are new sizes in the compact Bulletin 709 line of solenoid operated starters. One is rated for 200-hp motors on 220-volt input. The other will handle a 300-hp 220-volt motor. The capacity increases to 450 and 600 hp. on 440/550 volts. The compact magnetic pilot operator is a vertical line. The self-cleaning silver alloy contacts give the maximum service life and are enclosed, but can be seen in the operated position. Using a built-in oscillator, All variable thermal overloads come as standard equipment.

▼ BREF(T)—Identify by IEN-1859 if you write the maker. ▼

## MIXING . . Motor driven impeller assembles through side of a tank

Source: CONN & CO.
James St., Warren, Pa.

**Motor sizes** range from 1/4 to 30 hp. in this new assembly of vertical motor, right-angle speed reducer, tank assembling flange and sound ball-bearing impeller shaft and impeller. The shaft is packed on the outside face of the tank. It is sized square, tapered to a cotter key on the inside face. The motor is sufficiently large so the assembled shaft and impeller can be a minimum 10 inch.

**Parts** connecting the tank can be made of materials to suit service conditions. For instance, some operating at constant or variable speed, the reducer and motor can be separated with a long shaft, such as neither lubricants nor electrics. Explosion proof design can be supplied. Distance from outer panel face with the tank is about 17 in. in the 2-hp. size.

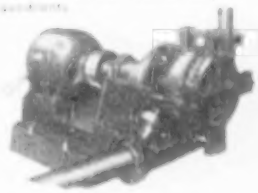
All Makers of These and All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

▼ BREF(T)—Identify by IEN-1860 if you write the maker. ▼

# Only the New TYPE "R" MORRIS SLURRY PUMP has these 4 features

1. Based is under suction pressure only. This feature positively eliminates packing troubles.
2. For dismantling, you need remove only four bolts. No marine glue or bolts — no troublesome fits or joints.
3. You can remove impeller and liner without disturbing piping.
4. Shaft interchangeable for right or left-hand rotation. Suction and discharge nozzles can be rotated to position in any of four quadrants.

The New Type "R" Morris Slurry Pump handles caustic or acid mixture containing abrasive sand, metallic ores, ash, coal, concentrates, tailings, slag, residue from filters and clarifiers.



Write for specifications and operation data on pumps best suited to your particular needs. No charge or obligation.

MORRIS MACHINE WORKS
Baldwinsville, N. Y.
Sales Offices in Principal Cities

MORRIS CENTRIFUGAL PUMPS

▼ BREF(T)—Identify by IEN-1861 if you write the maker. ▼

# GUARDIAN Controls

SURE TO HIT...
**P**RICE
**D**ELIVERY
**Q**UALITY

Write for [illegible]

GUARDIAN ELECTRIC
1656 W. WALNUT STREET CHICAGO 12, ILLINOIS

▼ BREF(T)—Identify by IEN-1862 if you write the maker. ▼

Here's why
# "SEXAUER" "EASY-TITES"

Outlast Ordinary Faucet Washers 6 to 1

You can stop costly faucet leaks that spoil water, fuel and cause costly and time consuming failures. Install an pair "EASY-TITES" faucet Washers made of DUPONT NEOPRENE. Neoprene resists abrasion and extreme high temperatures (operating at 200° F.). Fabric reinforced for a free "EASY-TITES" gives a quality out of ordinary. Outlasting ordinary washers 6 to 1, "EASY-TITES" have run faucets [illegible] and thousands of satisfied users. Stocks [illegible] Hardware and Plumbing Supply Houses.

FREE! VALUABLE 112 PAGE CATALOG

Know more about SEXAUER Faucet Washers, Repacking Parts and 1 and 2 Piece Parts, in catalogued in the SATURDAY EVENING POST. Standard with leading manufacturers and plumbing contractors. Send a postcard for your free copy TODAY.

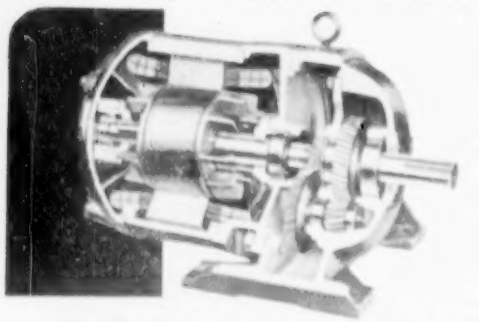
J. A. SEXAUER MFG. CO., INC.
2103-05 Third Ave., Dept. A-20 New York 51, N. Y.

SEXAUER
World's leading specialists in plumbing and heating maintenance.

▼ KREFITT—Identify by IEN-1863 if you write the maker ▼

▼ KREFITT—Identify by IEN-1864 if you write the maker ▼

▼ KREFITT—Identify by IEN-1865 if you write the maker ▼



FOOTE BROS.-LOUIS ALLIS

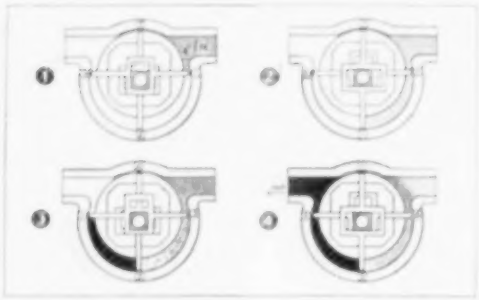
Gearmotors

FOOTE BROS

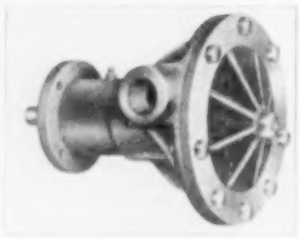
▼ KREFITT—Identify by IEN-1866 if you write the maker ▼

PUMP . . Floating vane rotary, 10 to 20 gpm. at 1,750 rpm., no head

Source: CHICAGO LABORATORY & ENGINEERING CO. 4138-42 N. Kedzie Ave., Chicago 18, Ill.



Abrasive and non-lubricating fluids can be handled by this new Clean rotary pump in which the four driven pumping vanes are floated in pairs on an eccentrically-located square crosshead. As a result the valves can be made to touch but not bear on the wall of the pump chamber for positive action without wear. The pump is made in three sizes with free-delivery ratings of 10, 15 and 20 gpm. at 1,750 rpm. The smallest is recommended for pressure to 50 lb. at which point the rating is 4 gpm. The largest is suited for pressure to 70 lb. with rating at 11 gpm. All three sizes are available in bronze-fitted cast iron and in all-bronze assembly. Pipe connections for pump intake and discharge are 1 inch.



The rotor and shaft assembly is mounted in preloaded deep-groove sealed ball bearings to carry the rotating elements in friction free assembly and to eliminate end movement so the vanes will touch but not bear on the side walls of the pumping chamber. The rotor is in the form of a ring with four slots in which the vanes ride. Each pair of vanes is integral with a rectangular center that applies on the square crosshead which rides an eccentrically located pin in the pump head. The assembly results in radial movement of the vanes in the rotor so their outer ends remain in contact with the cam located in the pumping chamber but do not bear against it.

▼ KREFITT—Identify by IEN-1867 if you write the maker ▼

SEALING . . Plastic cap fits on 1/8 in. Alemite grease fitting

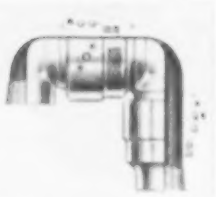
Source: S. S. WHITE DENTAL MFG. CO. 10 E. 40th St., 23rd Fl., New York 16, N. Y.

Elastoplastic is a new black vinylite-plastic cap to slip on an Alemite 1/8 in. lubricant fitting. The cap seals the fitting end, excludes dirt, eliminates danger of pushing the dirt into a bearing. The plastic is not affected by contact with grease or oil or water. It holds with a frictional grip on the fitting. List price is $2.85 per gross.

▼ KREFITT—Identify by IEN-1868 if you write the maker ▼

PIPE FITTING . . Swivel joint, ball bearing, for service to 3,000 lb.

Source: GIL-LAIR PRODUCTS INC. 79-83 Masonic Court, Pasadena 3, Calif.



All-Flex trade names the company's recently improved design of ball-bearing swivel joint in which the balls hold the parts in assembly and provide friction free swivel action. The improved design is characterized by the T-shaped metal packing rings with synthetic sealing lips. These rings are employed in pairs as shown in the section illustration. The packing will hold against leakage under pressures to 12,000 lb.

Overall size range is from 3/8 to 12 in. in high and low pressure assemblies with operating temperature to 250 deg. F. Low pressure design employs aluminum, bronze, magnesium and steel. High pressure units are forged steel with Teflon-lubricated ball valve. Removal of a plug in each valve provides access to the balls for disassembly or assembly purposes.

Catalog 50, 20 pages, presents illustrations showing various connections, assembly combinations, include tables on sizes, pressures, materials, dimensions to pressures ratings to 3,000 pounds.



▼ KREFITT—Identify by IEN-1869 if you write the maker ▼

ALOYCO

INTRODUCES A BETTER JACKETED-VALVE

Aloyco Jacketed Valves are made in 5 basic styles: Globe #1105, Check #1505 and (shown) Gate #1105.

• Here is the first completely jacketed valve in solid corrosion-resistant alloy — recommended for accelerating the flow of viscous liquids such as phthalic and maleic anhydrides, resin and resin fats and fatty acids, molten sulfur, and many other fluids at ambient to more at room temperature. Note how Aloyco jacketing extends to edges of flanges — bonnets fully jacketed as well as bodies — double-disc wedges non-fouling and pressure-tight on both seats. Aloyco Jacketed Valves are the embodiment of engineering, pattern-making and foundry skills of a high order. Send for new Bulletin #1.

Aloyco Valves are manufactured in compliance with the new MSS Stainless Steel Valve Standards S.P.-42

ALLOY STEEL PRODUCTS COMPANY, Inc.
1811 W. ELIZABETH AVE., LINDEN, N. J.
Atlanta • Chicago • Houston • Los Angeles • New York • Pittsburgh • Wilmington

▼ KREFITT—Identify by IEN-1870 if you write the maker ▼

How Long Will the Life-Line Bearing *LAST?*

As long as a comparable periodically-lubricated bearing—no longer. Bearing manufacturers say: "Pre-lubricated bearings have the same life expectancy as periodically-lubricated ball bearings *If these periodically-lubricated bearings are perfectly maintained.*" But, how often do bearings get perfect attention? Not often enough!

That's why Life-Line motors offer fewer outages due to lubrication faults. And that's why operating records of pre-lubricated Life-Line motors show an average of 41% fewer bearing failures than the best conventional motor ever built by Westinghouse.

But, get the complete facts. Ask your Westinghouse representative for a free copy of "Facts on Pre-lubricated Bearings" (B-3978) or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. 3-4-1-1

Westinghouse Motors

▼ REPRINTS—Identify by IEN-1872 if you write the maker ▼


DANLY DIE SETS

HERE'S WHY . . .

Hardened, ground and lapped leader pins make die assembly work quicker, easier and more accurate. Close guide post and bushing fits assure precise die reinforcing and longer die life. Danly Die Sets assure the lasting performance of your dies.

And they mean greater convenience. Well! Whatever you needs a Danly Die Set is quickly available. All standard sets are stocked in a nationwide system of Danly assembly branches.

Write for the bulletin on Danly special die set machining service.

DANLY MACHINE SPECIALTIES, Inc.
2100 South 52nd Avenue, Chicago 50, Illinois

DANLY

OVER 25 YEARS OF DEPENDABLE SERVICE TO THE STAMPING INDUSTRY


▼ REPRINTS—Identify by IEN-1873 if you write the maker ▼


NEWARK

DESIGN and PRODUCTION of WOVEN WIRE PARTS

NEWARK for ACCURACY

Why not allow us to do a "from start to finish" job on your fabricated wire cloth parts? What do we propose to do? Assist you with the design, set up the necessary tooling, make the wire cloth . . . it's the well known Newark Wire Cloth long noted for its accuracy and durability . . . and do all the necessary cutting, stamping, punching, welding, soldering, seaming and bending. We deliver to you a finished product in any quantity desired. We are equipped to handle your requirements on a quantity production basis.

May we quote on your next requirements?

* * *

We also manufacture a complete line of industrial wire cloth in all commercial malleable metals.

Newark Wire Cloth COMPANY
342 VERONA AVE. • NEWARK 4, NEW JERSEY


▼ REPRINTS—Identify by IEN-1875 if you write the maker ▼

## HANDLING . . Pallet mounted box folds or collapses when not in use

Source: G. B. LEWIS CO.
4 Montgomery St., Watertown, Wis.

**Folding and collapsing** designs have been added to the company's line of wooden wood and wire boxes for materials handling, shipping, storing. Both reduce to a fraction of their extended size for economical storage or for empty return shipment when they are not in use.

**The folding unit**, to the left in the illustration is fitted with hinges permanently mounting two opposite sides to the base in an arrangement that holds the inner ends. This box is available in sizes from 24 by 18 by 12 in. to 42 by 36 by 30 inches.

**The collapsing assembly**, to the right, is built up of loose panels for the sides and ends. These parts are mounted on the base and are strapped to hold them in place. The strapping is removed prior to collapsing and new strapping is employed to hold the flat parts on the base for storage or return. Inside dimensions are 24 by 22 by 12 in. to 40 by 40 by 30 inches. Bottom units in both designs are to specification, flat to whole or mortise face pallet design or to stacking skids.

▼ REPRINTS—Identify by IEN-1876 if you write the maker ▼

## TUBE FITTING . . Aluminum connector for aluminum tube from 3/16 to 1 inch

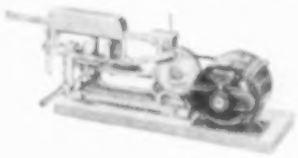
Source: SCOVILLE MFG. CO.
101 Mill St., Waterbury 91, Conn.

**Unifiare** design patented by the company is the product of this new aluminum connector which provides a seal that will be free from tendency toward galvanic action with aluminum tubing. The design requires a collar at the end of one of the two part pieces of the assembly. It shears off and acts as a washer between tube and fitting to ensure a final seal. The fitting is assembled for operation in the usual way. The coverage time after proper installation . . .

▼ REPRINTS—Identify by IEN-1877 if you write the maker ▼

## SAWING . . Hacksaw machine takes 8 in. blade, rates 2 3/8 in. work

Source: SALES SERVICE MACHINE TOOL CO.
2361-65 University Ave., St. Paul 4, Minn.



**Jefferson 601** is a new machine for semi-portable applications. It mounts on a bench or drums for a ¾ hp. The 150 strokes per minute. Stroke length is 3½ inches. Normal blade length is 8 in. but a 10 in. blade can be mounted when an extension bar is employed. The work vise can be adjusted for a thermal angle to 45 deg. at which point capacity is 1½ inches. Overall dimensions of the machine are 28 by 10 by 9 inches. Weight is 82 pounds.

▼ REPRINTS—Identify by IEN-1878 if you write the maker ▼

## GAGE . . Reads vacuum and pressure, range to 10,000 lb., illuminated dial

Source: HELICOID GAGE DIVISION
927-31 Connecticut Ave., Bridgeport 2, Conn.

**Both vacuum** and pressure ranges are included in this new illuminated dial product of the company's Fixed Helicoid gages. The unit has a black-faced, white porcelain graduation and the gage pointer finished with phosphorescent paint that glows when illuminated by light source that is 1 foot away. The indicator can be kept on as long as required. Three sizes have 4½, 6 and 8½ in. faces with the same mounting dimensions so the company's line . . .

For Names of Firms and Its Other Products See Index to THOMAS REGISTER . . . Descriptions . . . Ratings . . . See Page 14

▼ REPRINTS—Identify by IEN-1879 if you write the maker ▼


LIFT YOUR PROCESSING TO A NEW HIGH IN ACCURACY WITH

BRISTOL'S NEW CONTROLLERS

New and Exclusive Advantages found only in the Bristol NEW Series 500 Air-Operated Controllers

Reset, derivative and proportional values reproducible. The simplest and easiest controlled action on the market to service. Can be completely disassembled and reassembled with only one simple adjustment needed to put system in exact calibration. All reset controllers are equipped with reset stops. Available for automatically controlling temperature, pressure, liquid level, and flow.

Write for Bulletin A11V.
THE BRISTOL COMPANY
107 Bristol Road,
Waterbury 91, Conn.

BRISTOL

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS


▼ REPRINTS—Identify by IEN-1880 if you write the maker ▼


The COP... Gets You Off to a Good Start

Reference COP starter cutaways usually the front cover has been removed. Here's good. The COP, the only thermal starter, employs bimetal contacts in the 40 watt size . . . construction that assures extra contact speed, extra reliability, extra satisfaction. This means the most starts also means the most protection against such unpleasant effects of burned out lamps as excessive chatter, noise and ballast burnouts . . . because the COP takes a flicking lamp out of circuit at once.

The COP cuts up to power, while keeping an eye toward . . . and the circuit stays open until the starter is normally reset. Made by the manufacturer of the finest fluorescent lighting, the Sylvania COP (Cold-Cathode Premium) Starter is the result of years of know-how. Get full details about it now. Find out about our complete line of lampholders for every lamp and Sylvania Electric Products, Inc., Advertising Dept. L-1002, New York 18, N. Y.

SYLVANIA ELECTRIC
FLUORESCENT LAMPS, FIXTURES, WIRING DEVICES, SIGN TUBING, LIGHT BULBS, PHOTOLAMPS, RADIO TUBES, CATHODE RAY TUBES, ELECTRONIC DEVICES


▼ REPRINTS—Identify by IEN-1881 if you write the maker ▼


HALLOWELL

Steel Collars

IMMEDIATE DELIVERY

Write for name and address of your nearest HALLOWELL and UNBRAKO Industrial Distributor.

OVER 42 YEARS IN BUSINESS

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 4, PENNSYLVANIA

BREFITT—Identify by IEN-1882 if you write the maker

## Now— Time Delay

THAT YOU CAN REALLY DEPEND ON

## Order G-E Renewable Fuses

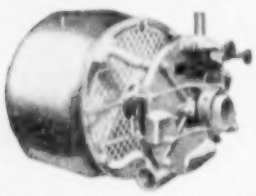
FROM THE NEW WIDE RANGE OF SIZES

For more information on this new line of General Electric fuses, write to Section D37-242, Construction Materials Dept., General Electric Company, Bridgeport 2, Connecticut.

**GENERAL ELECTRIC**

BREFITT—Identify by IEN-1883 if you write the maker

## WING FORCED DRAFT BLOWERS



THE WING TYPE K IS THE GRAND-DADDY OF ALL TURBINE BLOWERS. It's been a standard since 1903. For forced draft by bricking into boiler wall settings at side, rear or front. Capacities up to 50,000 CFM and starting to 18 in. Mass flow of steam valve, manually or automatically, varies the speed and capacity. Oil-free exhaust steam permits economical utilization in feed water, process and heating systems.

THE WING TYPE R TURBINE DRIVEN BLOWER is easily installed on boiler fronts or boiler settings. It provides precise draft control, manually or automatically, eliminating duct work and large space requirements. Particularly adapted for plants where oil-free exhaust steam is utilized. Negligible operating cost, as most of heat from steam is recovered.

WING END MOTOR DRIVEN BLOWER. For oil or gas burners, stokers, pulverized fuel and hand-fired boilers. Vertical or horizontal mountings, on floor or on wind boxes or air heaters. For drafts up to 10" w.g., volumes up to 50,000 CFM. Manual or automatic control by variation, facing damper, blade adjustments with damping. Total efficiencies up to 80%.

48 W. 18th St., N.Y. 11, N.Y.—Factories: Newark, N.J. and Montreal, Can.

**L. J. Wing Mfg. Co.**

BREFITT—Identify by IEN-1884 if you write the maker

## YOU CAN DO IT BETTER WITH FORMICA

*and you'll find the proof* in Formica's new "DATA FOR INDUSTRY" — the most comprehensive technical handbook on laminated plastics ever produced. Properties and performance characteristics for every grade are at your fingertips in this 96 page, durably bound reference volume. Send $1.00 today for your own personal, numbered copy. Learn how Formica can serve you, whatever your requirements.

FORMICA
4619 SPRING GROVE AVE.,
CINCINNATI 32, OHIO

Productive FORMICA at Work in Industry

BREFITT—Identify by IEN-1885 if you write the maker

## HANDLING . . Skip hoist elevates, dumps free flowing materials

Source: LEE METAL PRODUCTS CO.
366-70 W. Pine St., Philipsburg, Pa.

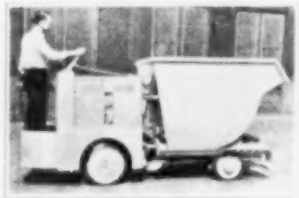
**A trough** or chute made of stainless steel is pivoted in one end near the top of this new hydraulic Materials Handler. Beneath it is a hydraulic cylinder that is pivoted at its base to the wheel-mounted housing and to brackets welded under the trough bottom. A bag, drum, barrel, to 500-lb. capacity, can be speeded and guided into an elevated position when the operator manipulates a valve on the housing side.

**Pressure** for the hydraulic operation is taken by hose connection from the shop water line, the company supplying a cylinder of correct size or equipping the unit with a pressure regulating valve depending on the available water supply. Overall dimensions are 28 in. (L) x 36 in. on the floor to provide maximum for operating. Overall height is 57 in. with the trough down, 10 in. when it is up. Floor to top of the front tire measures 20 in. and to the pivoting point is 50 inches.

BREFITT—Identify by IEN-1886 if you write the maker

## TRUCK . . Motor driven dump unit mounts 1½ yd. bucket, rates 3 ton

Source: MERCURY MFG. CO.
4132 S. Halsted St., Chicago 9, Ill.



**Model A-1015-9** Borden Carrier designates new assembly of the company's battery powered trucks and a rocking type dump bucket. The operator rides at the back where he controls the four-wheel steering and the three-speed drive in either direction. Speed is to 6 mph. free, 4½ mph. loaded on a level floor.

**Overall length** is 127 inches. Width is 42 inches. Wheelbase measures 60 inches. Outside turning radius is 106 inches.

BREFITT—Identify by IEN-1887 if you write the maker

## TESTING . . New house publication on instruments for scientific and industrial use

Perkin-Elmer Corp.
131-37 Hope St., Glenbrook, Conn.

**First issue** of "Instrument News" is an 8-page publication devoted to recent developments in optical instruments for research, material analysis, production. The major article concerns expanding use of infrared equipment in drug and biochemical fields. Other articles describe improvements in the company's products. A special section on "Tricks of the Trade" outlines special methods and techniques that may be helpful. Your name will be added to mailing list upon request.

*All Makers of These and All Other Products Are Listed in THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 59*

BREFITT—Identify by IEN-1888 if you write the maker

## FREE!

## . . . new handy selector for pump packings

**This handy new packing selector** gives concise, specific data on ten popular styles of Johns-Manville Packings that were proved out on all pump packing applications. It shows you where to use each style for greatest efficiency and economy.

Here's the quick, easy way to find you about lower packing costs . . . to get higher efficiency and longer life from packings. Write for your copy to Johns-Manville, Box 290, N.Y. 16, N.Y.

JM

**Johns-Manville PACKINGS & GASKETS**

BREFITT—Identify by IEN-1889 if you write the maker

## *Paint and Metal!!!*

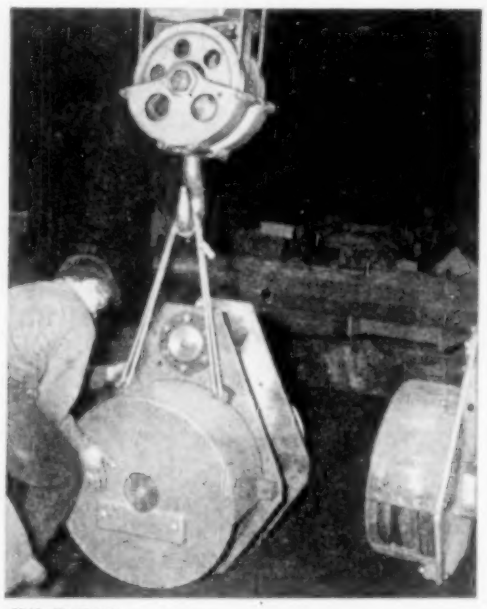
# VINSYNITE

*bonds them together—slashes metal processing costs and gives all metal surfaces durable protection against corrosive acids and alkalis.*

*Get all the facts about this amazing, economical coating. Write today.*

THOMPSON & COMPANY
1085 Allegheny Avenue • Oakmont, Pennsylvania
ESTABLISHED 1847

BREFITT—Identify by IEN-1890 if you write the maker



## *NOW... Wire Rope Slings with flexibility comparable to fiber rope*

ACCO REGISTERED WIRE ROPE SLINGS rate high with Safety Engineers. However, operating men are often reluctant to adopt new equipment when it means a departure from long-established ways of handling standard jobs.

Maybe you don't have to depart from established custom to enjoy the advantages of ACCO Wire Rope Slings.

The picture above illustrates a case in point. The hitch is a typical fiber rope hitch. But the sling is not fiber rope. It is a Double ACCO-loc Cable Laid Grummet. It has all the safety, dependability and economy of an all steel, machine laid sling with flexibility comparable to fiber rope. The patented splice develops the full strength of the sling body — plus giving an armored section to use at point of greatest wear.

Like all ACCO Registered Wire Rope Slings, these grummets are rated as to capacity—proof-tested to twice the rated capacity.

Here's a possible way to reduce material handling costs, eliminate injuries, improve safety, reliability and speed up reliable sling inspection. Write today for information about Double ACCO-loc Cable Laid Grummets.

ACCO
AMERICAN CHAIN & CABLE
WIRE ROPE SLING DEPARTMENT
Registered WIRE ROPE SLINGS

▼ REPRINT—Identify by IEN-1892 if you write the maker ▼

## STAPLE AND SAVE!

With an International Portable Hand Staple Machine hard surfaces are fastened together quickly, neatly and securely. You save space, surface damage, first cost, time. You save time: one machine with one operator can close seven cartons a minute. You save maintenance, cleaning, downtime. You save equipment: dozens chosen out to a minimum.

Ask to see our sound motion picture film!

**INTERNATIONAL STAPLE AND MACHINE COMPANY**
HAVERTOWN 5, PENNA.
EST. 1938—DISTRIBUTORS IN PRINCIPAL CITIES

▼ REPRINT—Identify by IEN-1893 if you write the maker ▼

**NOW—FAST INFORMATION ON CHROMIC ACID MIST HAZARDS IN AIR—ON-THE-JOB!**

M.S.A. Samplair

- HAND OPERATED
- LIGHT IN WEIGHT
- CONVENIENT
- COMPACT

Immediate knowledge of chromic acid mist hazards at the working place is provided by this convenient, compact new instrument. Hand operated by a simple pumping motion, the M.S.A. SAMPLAIR draws air sample through specially treated filter discs. The discs give a color reaction in proportion to amount of chromic acid mist present in test, including concentrations from 0.5 mg. 10 cu. m. to 4.0 mgs. 10 cu. m. Write for Bulletin CI-8.

USED BY
SHOP FOREMEN
OPERATORS
SAFETY ENGINEERS
INSURANCE INSPECTORS
INDUSTRIAL HYGIENISTS
PUBLIC HEALTH AUTHORITIES

APPLICATIONS

The M.S.A. Samplair is used in industrial plants, shipyards, chemical and metal industries, in the manufacture, handling of and use of chromic acid solutions, in the plating and electroplating, lacquering, painting and finishing processes.

**MINE SAFETY APPLIANCES COMPANY**
BRADDOCK, THOMAS AND MEADE STREETS · PITTSBURGH 8, PA.
*At Your Service:* 54 BRANCH OFFICES IN THE UNITED STATES AND CANADA

▼ REPRINT—Identify by IEN-1895 if you write the maker ▼

## GRINDING . . Diamond dresser for wheels from 1¾ to 2¼ inches

Source: TABER INSTRUMENT CORP.
107 Goundry St., North Tonawanda, N. Y.

List price: a kit for the low production shop or operator where dressing is required. It consists of the tools enclosed (illustrated) and for which supplies diamond bevel bearings, a locking base carrying a diamond mounting with and operating stem, a motion connection and a bowl. The bowl fingers hold to apply or remove a wheel. The motion connection is engaged by a manual motion to pull abrasive away from the wheel. Prime gas appropriate is to bring the wheels engaged in the bowl over a Mitchell sewing equipment.

▼ REPRINT—Identify by IEN-1896 if you write the maker ▼

## SEALING . . Air hardening solution seals porous areas in metal castings

Source: KIRK WHITE CHEMICAL CO.
119-23 W. 2nd St., Oconomowoc, Wis.

Seals ferrous or non-ferrous metals

Rampak is a new air hardening solution for impregnation by pressure of surfaces to have it into the pores to a definite depth. The solution is carried portion of the solution evaporation to leave gas and liquid tight hardware of the porous and pore-thousands. Evaporation takes place on the surface in 2 to 5 min. to permit handling. Machined surfaces can be cleaned with toluol or xylol. After the interior has dried either of these solvents can be applied under pressure without causing any leakage.

Packaging is in 30 gal. drums at $2.40 per gallon. The company is prepared to supply an engineer to assist in applications. Typical applications are in pressure vessels, cylinder heads, engine blocks, hydraulic brake valves, pump pumps, hydraulic and pneumatic cylinders, similar equipment.

▼ REPRINT—Identify by IEN-1897 if you write the maker ▼

## SIGNALING . . Illuminated sign with changeable letters and figures

Source: A. C. DAVENPORT & SON
309-13 N. Des Plaines St., Chicago 6, Ill.

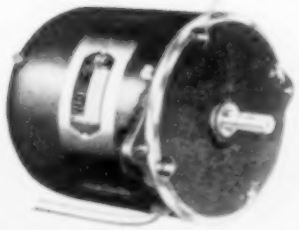
Flashing red and green lights are included in this new Davenport Safety Director Channel of signs. The face of the unit is removable from the stainless plated metal. Frame to change the letters and figures as desired. Equipment includes 36 red translucent characters 8½ in. in height and 200 black characters measuring 2½ inches.

All Makers of These and All Other Products Are Listed In THOMAS REGISTER Descriptions Ratings See Page 50

▼ REPRINT—Identify by IEN-1898 if you write the maker ▼

when the heat's on...

**KC**
Electric Motors guard your good name



THE HOOVER COMPANY
North Canton, Ohio
Representatives Everywhere
78 Years Leading
North Canton
New Jersey

▼ REPRINT—Identify by IEN-1899 if you write the maker ▼

## THE MOST POWERFUL ⅜" ELECTRIC IMPACT WRENCH EVER BUILT!

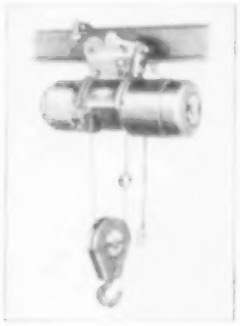
INDEPENDENT PNEUMATIC TOOL COMPANY
AURORA, ILLINOIS
BRANCHES IN PRINCIPAL CITIES

Floor PORTABLE POWER TOOLS

▼ REPRINT—Identify by IEN-1900 if you write the maker ▼

A NEWS ADVERTISEMENT BY WRIGHT HOIST DIV.

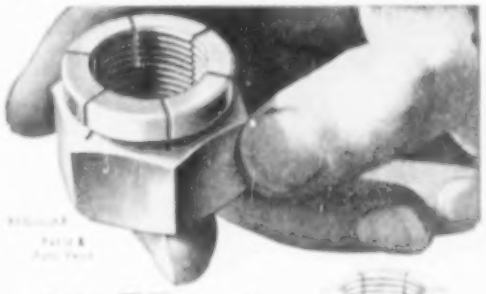
## ELECTRIC HOISTS . . . with a wide range of usefulness



The SPEEDWAY line of electric hoists includes models for practically any application up to 10 ton capacity. Motors, all built to NEMA specifications, are interchangeable. Cable drums are grooved. Cables are of Preformed wire rope with fittings securely swaged on. Gears of alloy steel, heat treated and hardened. Mountings available: base, lug, hook, plain geared, motor-driven or close headroom trolley. Write for bulletin of specifications. DH-60.

**WRIGHT HOIST DIVISION**
American Chain & Cable
York, Pa.

▼ REPRINT—Identify by IEN-1901 if you write the maker ▼



FLEXLOC

ONE-PIECE SELF-LOCKING NUTS

. . . WON'T SHAKE LOOSE!
. . . ELIMINATE "NUT" TINKERING
. . . REDUCE MAINTENANCE COSTS!

Every day we learn of more FLEXLOC Self-locking Nuts being used in industry because they are superior fasteners and reduce maintenance costs. Maintenance men are quick to see the value of a nut that the more that having vibration won't budge, yet which can be removed easily when desired. And to reuse. The strong, one-piece FLEXLOC has no extra parts to lose or forget.

So, why not try FLEXLOC Self-locking Nuts for your instruments? Find out for yourself how they eliminate "tinkering" with your nuts and save valuable maintenance time.

Send for samples and our Catalog 619-A.

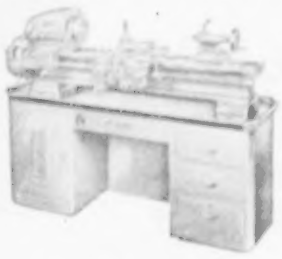
**SPS** STANDARD PRESSED STEEL CO.
JENKINTOWN 11, PENNSYLVANIA

▼ REPRINT—Identify by IEN-1902 if you write the maker ▼

## When is a lathe too big?

*A lathe is too big when:*

SHELDON



(1) When it is too large and complex for any but the most experienced to operate safely.

(2) When the power cost is excessive for the tool load.

(3) When the tool movement is out of all proportion to the requirements.

(4) When it is too cumbersome and too slow.

(5) When it takes up floor space, heat and light in which output could be multiplied with smaller machine tools.

Modern Sheldon Precision Lathes eliminate these excess costs and loadings—leave far more on the profit side. 10", 11" and 12" Swing. "Zero Precision" Tapered Roller Bearings. Increased collet capacity.

*Write for catalog*

SHELDON MACHINE CO. Inc.

[illegible] N. KNOX AVENUE · CHICAGO 40, ILLINOIS, U.S.A.

▼ REPRINT—Identify by IEN-1903 if you write the maker ▼

# AMESTEAM GENERATOR provides simplified rear end design

*for EASIEST*

- Inspection
- Maintenance
- Cleaning

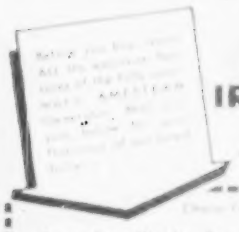
AMESTEAM Generator design provides a better steam every time—exactly engineered to meet your needs.

With this simplified rear end design it is a minor operation to completely expose furnace and all tubes. Open rear flue cover, it's in one piece instead of several panels. Open rear baffle—of sturdy one-piece construction instead of numerous special refractory shapes. The baffle refractory is easy-to-get, split-set plastic-type instead of expensive special shapes which must be ordered from the manufacturer. Flue covers and baffle are on dust-type hinges. Sizes A-50 and larger, making them easy to open in limited space.

That's only one of AMESTEAM Generator's many advantages. Auxiliary equipment is completely accessible—controls are properly positioned—all for your ease and convenience—and to save you time and money.

It all adds up to the easiest boiler to operate, inspect, maintain and clean, and it generates steam quickly, efficiently and at low cost.

[illegible]



**AMES IRON WORKS**
Oswego, N. Y.

[illegible]

Ames Iron Works, Box 1002, Oswego, N. Y.

Please send me your new free bulletin of Amesteam Generators.

Name

Company

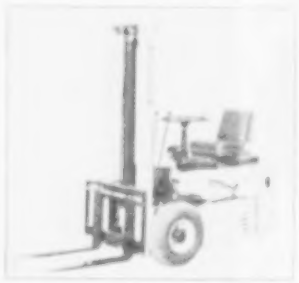
Address

City Zone State

▼ REPRINT—Identify by IEN-1905 if you write the maker ▼

## TRUCK . . Power lift fork design, 9 ft. lift, rates 1 ton, engine drive

Source: HYSTER CO.
2916 N. E. Clackamas St., Portland 8, Ore.



New design of the company's No. 20 truck includes drive by a 4-cylinder air-cooled gasoline engine, a new disc clutch in the transmission, double-acting hydraulic cylinders for tilt movement to the front and rear. The operator rides in an upholstered seat where he straddles the steering column to the foot controls on the two sides. Steering is of a single rear wheel built into the rear counterweight. A turn can be made in a 67 in. radius. Tilt and lift movements are powered by a hydraulic pump driven by the engine. In addition to the forks the company can supply various accessory carrying devices to include load grabs, coil grabs, scoops, booms. Guards, towing hooks also are available.

Bulletin 1135, 8 pages, presents detail information.

▼ REPRINT—Identify by IEN-1906 if you write the maker ▼

## RELAY . . Miniature assembly designed for low voltage dc. operation

Source: STRUTHERS-DUNN INC.
144-52 N. 13th St., Philadelphia 7, Pa.

Frame 181 is a new miniature relay assembled in a box type structure for resistance to mechanical shock and vibration as in mobile equipment. The armature is balanced design. The coil is proportioned to assure positive operation of [illegible] type contact springs. Any contact arrangement can be specified, for 4 pole double throw standard open type and dust cover assemblies are available with a removable or hermetically sealed cover. Data is in Bulletin 3010.

▼ REPRINT—Identify by IEN-1907 if you write the maker ▼

## PROTECTING . . Booklet of suggestions on how to set up eye safety program in a plant

American Optical Co.
12-16 Mechanic St., Southbridge, Mass.

Two major points are outlined in new 16-page booklet, "How to Set Up and Conduct a Safety RX Program." One concerns company policy, the second concerns professional participation by opticians and others in the community. There is a step-by-step outline on the use of an available prescription form for safety glasses.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

▼ REPRINT—Identify by IEN-1908 if you write the maker ▼

# SPEED UP
**SLOW-FLOW MATERIALS**

TARS
PLASTICIZERS
WAXES
MOLASSES
GLUES
RESINS
GREASES
GUMS . . ETC

USE ACRAWAT ELECTRIC
## DRUM HEATERS
FIT ALL STANDARD 22" DRUMS

[illegible] time-consuming costly slow flow at an [illegible] cost. Use one or more Acrawatt Drum Heaters on your drums. Make sticky viscous materials [illegible] get more on [illegible] and off in a [illegible]. Safe and simple to apply and operate. Use single or in multiple. Save with Acrawatt reliability, long life, ruggedness and efficiency. Order today.

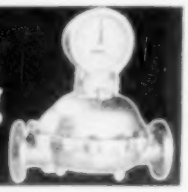
ORDER NOW
EA. $19.50
F.O.B. CHICAGO
Spot Shipment
Shipping Wgt. 10 Lbs.

FOR BETTER ELECTRIC HEATERS AT BETTER PRICES, LET US QUOTE

**ACRA INDUSTRIAL ELECTRIC CO.**
3009 N. RAVENSWOOD AVE. CHICAGO 13, ILL.

▼ REPRINT—Identify by IEN-1909 if you write the maker ▼

# Got a Corrosive Liquid Metering Problem?



Let NIAGARA CHEMICAL METERS Solve it for you!

Long successful producers of Niagara Meters operating in [illegible] and engineering firms and commercial measurement. Niagara Chemical Meters are built for liquids and acids.

Soap
Food juices
Vegetable juices
Sulphuric acid
[illegible]
Acetic acid
Vinegar
Calcium chloride
Wine
Sodium hydroxide
Calcium hydroxide

Please send me full information on use of your Niagara Chemical Meters.

Liquid . . . Pressure . . . PSI
Temp . . . Flow rate
Company
By
Address

SEND COUPON for complete data!

**BUFFALO METER CO.**
2929 MAIN STREET BUFFALO, N. Y.

▼ REPRINT—Identify by IEN-1910 if you write the maker ▼

# NO "SOAP" CAN SPOIL THE LUSTER

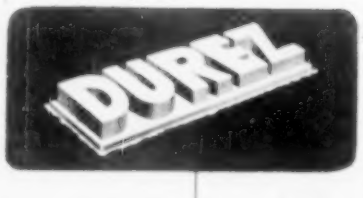
of this Outstanding New Phenolic

# DUREZ 14899 BLACK

HAS FAST CURE,
GOOD IMPACT STRENGTH,
VIRTUALLY UNAFFECTED
BY 96-HOUR BOILING TEST

● Newest result of a continuing program designed to provide better phenolics for industry is Durez 14899 Black. This thermosetting compound is especially formulated for molding washing machine agitators or parts operating under similar conditions . . . it has an extraordinary ability to retain its fine surface luster and smoothness after repeated immersion in hot soap and three-gear solutions. Highly resistant to the effect of substances such as NaOH in hot solution, it has low water absorption, good dimensional stability and impact strength. Come the material is safety is available. Write us about your material requirements.

SEND FOR DATA—[illegible] 7, Wash. [illegible] New York




PHENOLIC RESINS
- MOLDING COMPOUNDS
- INDUSTRIAL RESINS
- PROTECTIVE COATING RESINS

▼ REPRINT—Search by IEN-1912 ▼

**HERE'S WHAT BJ's NEW MECHANICAL SEAL MEANS TO YOU:**

Eliminates frequent repack-ing

Prevents leakage

Lower overall cost

Three standard types

**Byron Jackson Co.**

P.O. Box 2017, Terminal Annex, Los Angeles 54, Calif.

Get the Full Story

**AVAILABLE ONLY WITH BJ**

▼ REPRINT—Search by IEN-1913 ▼

*ACTUAL CHECK PROVES*

*No other Copying Process offers you the*

**ECONOMY** *of* **OZALID!**

**HERE'S PROOF!**

WHAT IS OZALID?

WHAT ARE THE ADVANTAGES OF THE OZALID PROCESS?

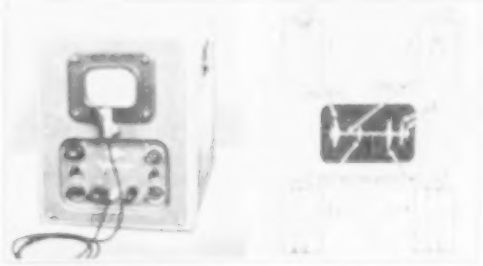
OZALID PAPER IS UNEQUALED FOR QUALITY, TOO!

Cut Copying Costs...Use **OZALID!**

▼ REPRINT—Search by IEN-1915 ▼

**TESTING . . Supersonic vibrator to detect and locate flaws in materials**

Source: SPERRY PRODUCTS INC.
1002 Shelter Rock Road, Danbury, Conn.



**Type UK** Style 3[illegible] is a new design of the supersonic Reflectoscope previously described ICS [illegible]. It detects flaws, checks soundness of welds, locates hidden defects non-destructively. It also can be supplied to measure physical dimensions of metal parts where only one end or a side is accessible. Assembly is in a steel housing for portable application. Overall dimensions are about 14 in. of by 19 inches. Weight is 38 pounds. Operation is on 110-volt 60-cycle single-phase ac. There is sufficient capacity to penetrate and indicate through 30 ft. of aluminum.

**Pulses** of ultrasonic vibrations are introduced into the material under test at right angles to the testing surface by means of a quartz and containing a quartz crystal. When the vibrations are interrupted by an internal crack, pocket, inclusion, or other discontinuity, or by the far side of the material, they are reflected back to the search unit. The search unit converts these reflected vibrations into electrical impulses. These appear as the face of a cathode-ray tube as vertical indications along a line of square-wave markers which represent units of distance.

**The "initial pulse"** indicates the testing surface. The "back reflection" indicates the reflecting surface. Indications between these two reflections show discontinuities in the material, and locate their position along the square-wave markers. Amplitude of indications can be used to an experienced operator, within a few units of accuracy, in the material.

**Bulletin 50-105.** [illegible]

▼ REPRINT—Search by IEN-1916 ▼

**GAGE . . Steel measuring tape reads diameter when wrapped in circle**

Source: CARLSON & SULLIVAN INC.
1712-16 California St., Manteca, Calif.

**Hobby No. 2LF** [illegible]

All Makers of These and All Other Products Are Listed in THOMAS' REGISTER Descriptions Ratings See Page 50

▼ REPRINT—Search by IEN-1917 ▼

**NO HEAVY MOTOR TO CARRY in a *Mallflex* GRINDER**

Motor mounted on rolling pedestal or rear load trolley takes machine weight from operator's hands. [illegible] Most powerful motor with more copper and true safeguards against burn-out. Light-weight, interchangeable working units for Grinding, Wire Brushing, Sanding, Polishing are easier to handle than unit with motor built on.

Factory-owned Service Stations from Coast to Coast provide quick, dependable repair service. Over 1000 Mall Genuine Engine, Electric and Pneumatic Power Tools for a million jobs. A dealer in every town (or nearby town).

*Write Dept. 1E for FREE demonstration in your plant. Illustrated literature, and name of nearest Mall Dealer.*

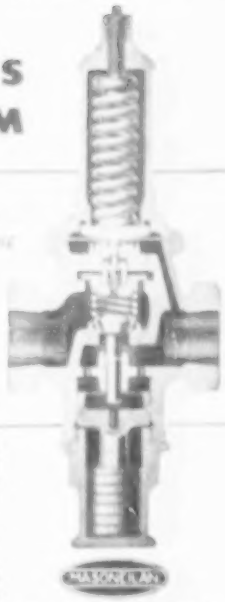
**MALL TOOL COMPANY**
**7782 South Chicago Avenue • Chicago 19, Illinois**
Established 1921

▼ REPRINT—Search by IEN-1918 ▼

**STAINLESS STEEL TRIM**

*Reduce Maintenance Assure Longer Operating Life of*

**MASONEILAN No. 11 Reducing Valves**

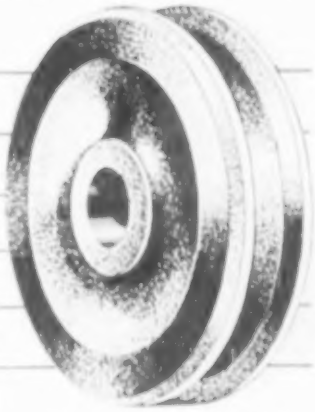


Because the pilot valve and seat are made of 300-series stainless steel, Masoneilan No. 11 reducing valves give accurate long life and reduce maintenance by minimizing valve-sticking, seat-cutting, and wire-drawing. And remember the stainless steel trim is standard . . . costs you no more. Investigate and install Masoneilan No. 11. These regulators will save you money by lasting in service longer. Write for catalog, today.

**MASON-NEILAN REGULATOR CO.**
[illegible] Street
Boston 22, Mass., U.S.A.

▼ REPRINT—Search by IEN-1919 ▼

**WROUGHT STEEL CRANE WHEELS by STANDARD**



Built for *extra* service by a pioneer producer of railroad wheels, under continuous quality-control from melting of metal to final finishing. Rugged, tough, strong, durable. Available in a range of sizes. Prices on request.

**BALDWIN**
**STANDARD STEEL WORKS**
The Baldwin Locomotive Works
Standard Steel Works Division
Burnham, Pennsylvania

▼ REPRINT—Search by IEN-1920 ▼

**TIME-SAVING HEAD**

The knurling on the head of the UNBRAKO Socket Head Cap Screw gives positive assembly time because the UNBRAKO can be spinned in faster and farther with the fingers—the knurled of all assembly—before a wrench is needed. The additional knurling "gives" the screw to the fingers even when they are oily or greasy. This is especially important in the smaller sizes.

So, use Knurled UNBRAKO Socket Head Cap Screws and save time and money.

*Write for further information*

SOCKET **UNBRAKO** SCREWS

**SPS** STANDARD PRESSED STEEL CO.
JENKINTOWN, PENNSYLVANIA

BRIEFITS—Identify by IEN-1921 if you write the maker

KIRK and BLUM

# NEW TYPE "M"

UNIT DUST COLLECTORS

**Maximum Capacity Minimum Space and Maintenance**

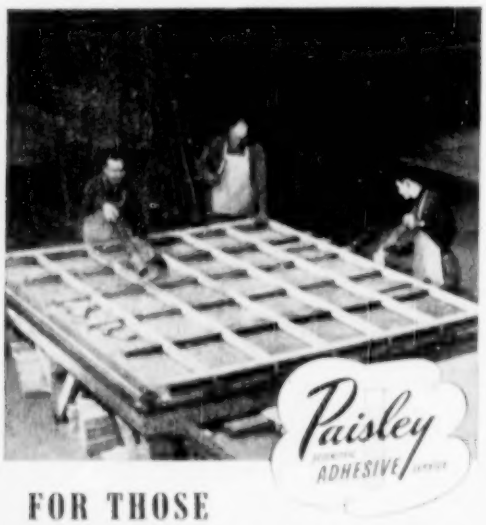
This new Heavy Duty Unit Collector offers many features not found in the ordinary portable dust collecting unit. Cleaned air may be returned to room or vented to outside. Motor and exhauster are completely isolated from dust . . . the unit is completely fireproof. Housings are extra heavy. This unit can be readily moved to meet changing needs. Models available in 450, 900 and 1800 CFM at high velocity.

Kirk and Blum with 42 years experience in large dust control installations have designed this unit for higher efficiency, with greater capacity and compactness. Write for Bulletin M. The Kirk & Blum Mfg. Co., 2286 Spring Grove Ave., Cincinnati 25, Ohio.

FOR CLEAN AIR . . . THE INVISIBLE TOOL

KIRK-BLUM
DUST CONTROL SYSTEMS

BRIEFITS—Identify by IEN-1922 if you write the maker




## FOR THOSE *HARD-TO-GLUE* JOBS . . GET A PAISLEY Scientific GLUE!

WHETHER it's a big pre-fab house or the smallest wood-working operation, there's a *better* Paisley Scientific Adhesive to do the job. Regardless of the *type* of materials to be bonded, the *method* of application, or the *setting speed* required, Paisley will develop the ONE best, most economical adhesive for the operation! Get all the facts about these three basic Paisley woodworking glues . . 1. Paisley LIGNOTITE Dry Casein Glues, 2. Paisley fast-setting Liquid Resin Wood Glues, 3. Paisley Liquid Animal Glues. Use the coupon below . . just check the items in which you are interested.

PAISLEY "ACCESSORY" ADHESIVES FOR WOODWORKING JOBS . . .

*FOR BONDING*

1. Linoleum to wood
2. Cloth to wood
3. Cardboard to wood
4. Plastic table tops to wood
5. Coated fabric coverings and linings to wood
6. Special adhesives for shop repairs, exhibits, housewares, toys, cedar chests, furniture, industrial wood products, etc.

*TELL US YOUR NEEDS*

**TEAR OUT, PASTE ON LETTERHEAD AND MAIL TODAY!**

LIGNOTITE Dry Casein Glues
LIQUID RESIN WOOD GLUE No. 2141
LIQUID ANIMAL GLUE
ADHESIVE OPERATION DATA SHEET

**PAISLEY PRODUCTS INCORPORATED**
Manufacturers of Glues, Pastes, Resin Adhesives, Cements and Related Chemical Products
1770 CARALPORT AVE., CHICAGO 16, ILL. • PHONE CANAL 6-2219
630 W. 51st STREET, NEW YORK 19, N. Y. • PHONE COLUMBUS 5-2080

BRIEFITS—Identify by IEN-1924 if you write the maker

## WRENCH . . Power stud driver for studs, cap screws, nuts to 1/2 in.

Source: INDUSTRIAL ENGINEERING CO.
728-32 E. Sample St., South Bend 18, Ind.

**New driver** applies in a drilling machine as shown in the illustration, can also be employed in a portable power tool to drive studs, tighten cap screws and nuts to a predetermined torque. The assembly includes a calibrated torque wrench through which the drive is connected so the wrench will continuously indicate torque being applied. Two signal lights are in the assembly also, one to show green until the torque is up to a predetermined amount, the other to show red when torque is greater than the desired setting. The operator watches the lights, maintains the drive until the green light goes out, stops before the red one comes on.

**The assembly** employs a gear transmission, built-in reversible clutch that can be set to act when the drive is in a drilling machine and the spindle has come down to a preset stop.

BRIEFITS—Identify by IEN-1925 if you write the maker

## PACKAGING . . Foil backed paper to protect machine parts vapor-tight

Source: STANDARD INSULATION CORP.
72-76 Paterson Ave., East Rutherford, N. J.

**Stanowrap 10** is a new coated kraft paper with aluminum foil laminated on the outer face. The resulting combination is moisture proof, resistant to oils and greases and to mild acids and alkalis. It has double fold characteristics and can be made into a vapor-tight package by lap folding and twisting the ends without resorting to waxes, tapes or heat. The coating takes the place of an inner wrap and retains any loose paper fibres. Wrapped machine parts will remain free from corrosion for an indeterminate period of time inside these protective covering.

BRIEFITS—Identify by IEN-1926 if you write the maker

## DRIVES . . Cardboard slide calculator for flexible shaft drives by torque and speed

Source: Stow Mfg. Co.
441-45 State St., Binghamton, N. Y.

**Front** of new "Flexible Shafting Torque Calculator" has windows and a slide to determine torque in inch-pounds and foot-pounds for given speed and horsepower. Back indicates sizes of flexible shafts to use for a given speed at a given radius. A copy is available upon letterhead request.

*All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50*

BRIEFITS—Identify by IEN-1927 if you write the maker

**HOT WATER—FREE**

with a PLIBRICO Portable Incinerator

Some units of Plibrico Portable Incinerators are now operating in hospitals, schools, apartment houses and hotels that have been using hot water for years. Hot water is used for washing floors, dishes, laundry, etc. Plibrico Portable Incinerators are built for long life and low maintenance. Write for Bulletin No. 1.

**PLIBRICO JOINTLESS FIREBRICK CO., 1832 Kingsbury St., Chicago 14, Ill.**

BRIEFITS—Identify by IEN-1928 if you write the maker

**SHORTER and SNAPPIER!**

New Rotor "Multi-power" Chipper gets into crowded quarters . . . gets the job done faster

The "Snapper" (left) is the new Rotor "Multi-power" Chipping Hammer. It offers generally greater compactness of design and gives better cutting. It is a real "time-saver."

**Shorter and lighter.** The 15 new "Multi-power" Rotor Chippers average 1" to 2" shorter than other chippers, easier to get into corners. It weighs up to 1 lbs. less than other hammers—easier to handle.

**3 Tools in 1.** The power design makes it safe to adapt each hammer for 3 types of service by a simple change of parts. You have (1) A "regular" model, (2) A "super speed" model, (3) A "super power" model. Only Rotor has models to match your job.

**Faster.** New economical design of valve and bushing permits safe ultra-long stroke.

Write for complete details today. Ask for catalogue No. 1.

AIR O'TOOL

**THE ROTOR TOOL CO.**
CLEVELAND, OHIO
*UNBIASED ANALYSIS OF PORTABLE TOOL PROBLEMS*

BRIEFITS—Identify by IEN-1929 if you write the maker

*Write for Catalog* OF USES and SPECIFICATIONS

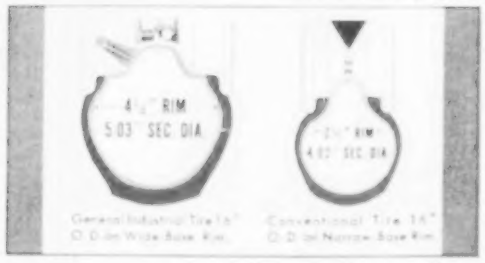
# GENERAL Industrial Pneumatics

**ADD THESE 6 SELLING POINTS TO YOUR PRODUCT**

**SAVE**
• TIME • LABOR
• FLOORS

**REDUCE**
• BREAKAGE
• MAINTENANCE
• COSTS

Available in Standard Tires, Tubes and Wheels. Size O.D. 4" to 11" — 200 to 2000 lbs. capacity for low or high speeds.




General Industrial Tire 5" O.D. on Wide Base Rim — Conventional Tire 5" O.D. on Narrow Base Rim

*MORE*
• AIR VOLUME
• STABILITY
• LOAD CAPACITY
• MILEAGE

THE GENERAL TIRE

SEND FOR CATALOG . . . DEPT. 3

THE GENERAL TIRE & RUBBER CO. AKRON, OHIO

▼ BRIEFITS—Identify by IEN-1931 if you write the maker ▼

*Notice*
DESIGN
ENGINEERS . . .

3½" Model 321-T
Round Molded Case

**3½" METER ADAPTATIONS AVAILABLE**

CASE STYLES—Round or Square. CASE MATERIALS—Metal or molded. TYPES. MOVEMENTS—AC,DC Electrodynamometer,RF. SPECIALS—Suppressed zero, differential-type meters, sensitive instrument-type relays made to order. Decibel meters. Rectifier types. Meters specially built for adaptations where subject to extreme vibration, temperature, humidity, strong magnetic fields, etc. POINTERS—Spade, knife-edge, or lance pointers. COLOR—in case and dials. MOUNTING—Flush, rear clamp, flush, rear screw, flush, rim mounting, projection, rear screws. DIALS—Metal, attractively printed. Your own name and trademark economically reproduced at little or no additional cost depending on quantity of run. ILLUMINATION—Rear and front lighting offered in a wide variety.

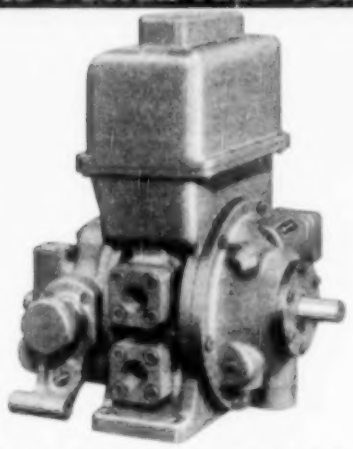
TRIPLETT ELECTRICAL INSTRUMENT COMPANY
Bluffton, Ohio, U.S.A.

In Canada: Triplett Instruments of Canada
Georgetown, Ontario

*Precision-built to last*
TRIPLETT

▼ BRIEFITS—Identify by IEN-1932 if you write the maker ▼

**THE NEW OILGEAR "JK"**
**FLUID POWER FEED PUMPS**



**ARE SO EASY TO APPLY**
**To New or Old Machines**

Simply connect a new, small Oilgear "JK" Feed Pump to an Oilgear cylinder and an Oilgear engineered control and you have a complete production and switch-controlled fluid power system. No hydraulic or electric application engineering is required. Merely follow standard recommendations in mounting units, connect pump to cylinder with two pipes and wire two seconds on pump to electric controls. Oilgear supplies the feed pump, cylinder, control cases, limit switch panel, control panel and pushbutton station. Oilgear provides patented, fixed and proven hydraulic and electric controls.

You can improve your new and old machines without further engineering your engineering department or employing men to get qualified hydraulic engineers. You cut production and assembly costs because NO mechanical control linkages. NO auxiliary valves, pipes or fittings are required. You do not have to use delay, disappointment or malfunctioning. You avoid divided responsibility. You receive the full value inherent only in 100% Oilgear systems.

*No other single change in a machine can contribute so much to simplified design, reduced costs or improved performance as the application of the "JK" feed system.*

Bulletin 44200 describes this small, compact packaged, and fool-proof combination feed pump, relief valve, gate pump, control and relief valves in an integral unit. Other features described are wide range of facts. Immediately maintained pump set feed zero, ease of servicing without disconnecting pipes or drawing oil reservoir, etc. Send for this bulletin today. THE OILGEAR COMPANY, 1567 W. Pierce Street, Milwaukee 4, Wisconsin.

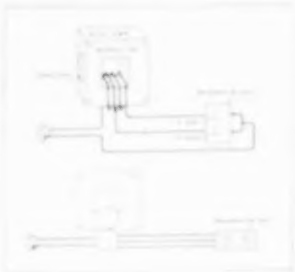
*Oilgear Fluid Power*

PUMPS, MOTORS, TRANSMISSIONS, CYLINDERS AND VALVES

▼ BRIEFITS—Identify by IEN-1934 if you write the maker ▼

## TESTING . . Current indicator mounts neon lamp for circuit check

Source: INDUSTRIAL DEVICES INC.
20-24 State Road, Edgewater, N. J.



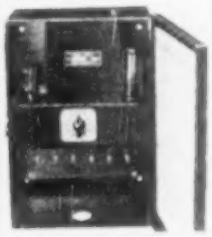
**Mini-Amp** is a new simplified current indicator employing a neon lamp to glow at minimum current flow when the indicator is inserted in one side of an ac circuit. The unit measures 2 by 1 by 2 inches. It lists at $4. Initially intended for use by service men to check motor and circuit loading on electrical appliances, it is suited also with permanent assembly into a test circuit, as illustrated, for application in industrial plants.

**Seven turns** are made on one side of the circuit through the center opening and leads are brought out to a load receptacle for given current readings. A plug at the opposite end of the test circuit connects to an ac power source. Current rating is to specification.

▼ BRIEFITS—Identify by IEN-1935 if you write the maker ▼

## WELDING . . Timer contactor for spot welders rating to 1 kva.

Source: LECTRO-MAX
13-17 S. 1st St., Geneva, Ill.



**Series A** designation recently supplanted design in the company's line of electronic timing equipment for spot welding control. A new electronic circuit and telephone-type relays are employed. The time interval can be set between 0.5 and 45 cycles. The unit will handle loads (from) to 10 amp on 110-volt ac and as wide in this range as six-foot conductor. It will handle Seaver loads by adding a separate contactor. Direct rating is 5 amp on 220 volts, 2.5 amp on 440 volts. Size is 6 by 4 by 3 inches.

*All Makers of Items and All Other Products Are Listed In THOMAS REGISTER . . Descriptions . . Ratings . . See Page 56*

▼ BRIEFITS—Identify by IEN-1936 if you write the maker ▼

**WHALE**
BRAND
**HACK SAW FRAMES**

The new Butcher Type Handle on Model No. W85 WHALE Hack Saw Frames really takes hold with customers! Superbly balanced, finger-fitted grip of tough rubber composition. Fully enclosed protective design. Rugged Forsberg frame. Order this outstanding Hack Saw Frame TODAY!

THE *Forsberg* MFG. CO.
BRIDGEPORT, CONNECTICUT

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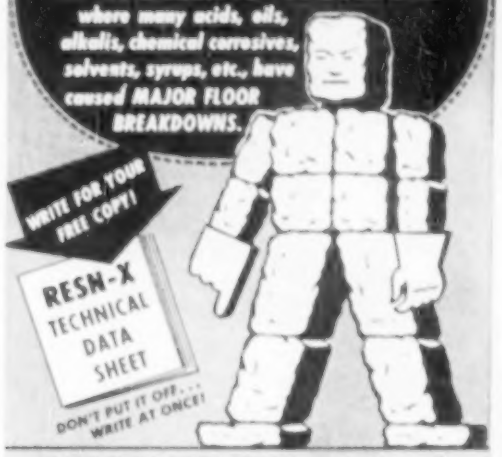
**RESN-X**
**HEAVY-DUTY FLOORING**
**IS WORKING WONDERS**
*where many acids, oils, alkalis, chemical corrosives, solvents, syrups, etc., have caused MAJOR FLOOR BREAKDOWNS.*

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Manufacturers of a Complete Line of Building Maintenance Materials
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In Canada: Rock-Tred Corporation (Canada) Limited, Toronto 3

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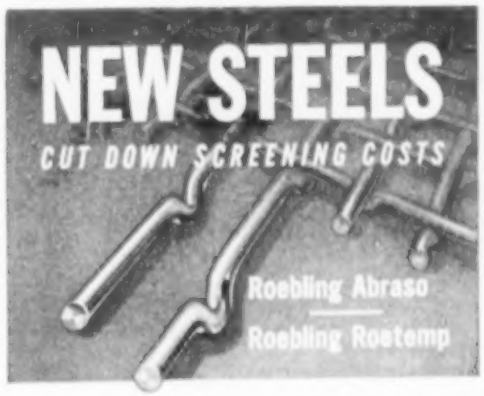


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WOVEN WIRE FABRICS DIVISION
OF JOHN A. ROEBLING'S SONS COMPANY
ROEBLING, NEW JERSEY

**ROEBLING**
A CENTURY OF CONFIDENCE

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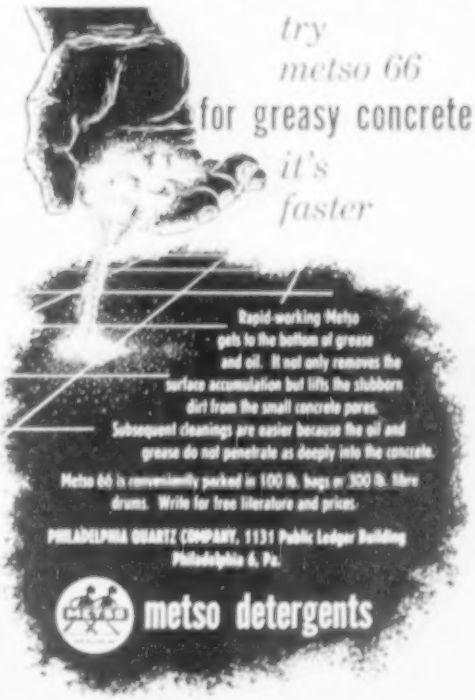

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*with the new Federal Noark Protectit*

**FEDERAL** NOARK
PROTECTIT
SALES OFFICES IN PRINCIPAL CITIES

FEBRUARY 1950

# INDEX TO ALL PRODUCTS

## How to find what you need:

**Leaf through the issue** with your current needs in mind, noting down those subjects that sound like solutions to your problems as you read the subject headings.

**Next use this index** to pick up page number references to additional sources on the subjects you have chosen. An asterisk (*) in the index after a number means editorial material.

**Now take one subject** at a time and refer to the pages you have noted. This time read the editorial descriptions and advertisements in detail. Then write the IEN numbers on which you want further information on your Reader Service Form to send to us, or write the manufacturer direct.

**If you have trouble** in finding the answer to your current problem through the subjects in this issue, let us know. We can name sources of supply with the help of our sixteen-year index of all products that have appeared in IEN. Any question we cannot answer will be published in our "I Wish I Had" column to invite suggestions.


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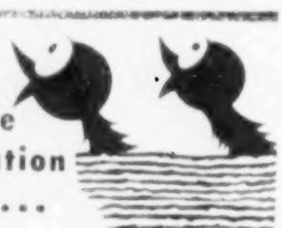

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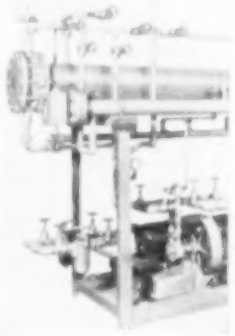

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PORTABLE ELECTRIC TOOLS

# "I WISH I HAD"

This column concentrates your reader requests for information on sources of supply for products or services or technical advice which we ourselves cannot supply, advises you of new patent-protected products for your possible manufacture, and available surplus of specialized products.

It is published to invite your suggestions and comments, which are forwarded immediately to the originator, just as we will be happy to publish similar problems for you.

**CONTACTORS** . . . "I wish we had a buyer for 300 new Ward Leonard magnetic contactors, rating 20 amp. on 440 volt, three wire circuit. The contacts are double break. The control coil operates on 110 volt, 60 cycle ac. An auxiliary contact rates 5 amp ac. The stock is in Illinois." IEN W-30

**CONTROL** . . . "I wish we had a source for one of our clients to provide equipment for synchronization of two or more internal combustion engines by means other than differential gear device." IEN W-21

**CONVEYING** . . . "I wish we had a buyer for two Syntron Model F-220 vibrating type feeder conveyors with 8 by 72 in. troughs for operation on 220 volt, 60 cycle AC. Both are new and in stock in Chicago." IEN W-22

**FLOOR MATERIAL** . . . "I wish we had contact with a source that could supply us with an all-weather marproof floor refinishing material that can be used over asphalt." IEN W-23

**NEW PRODUCT** . . . "I wish I had a buyer for my patent rights on a portable oscillating signal lamp with extensible support for use on motor vehicles." IEN W-24

**NEW PRODUCT** . . . "I wish I had a manufacturer interested in taking over production and sales of my patented self sealing double piston ring. I have models and will be glad to demonstrate personally." IEN W-25

**NEW PRODUCT** . . . "I wish I had a manufacturer to purchase, on a cash or royalty basis, the patent I have been granted on a soap dispenser." IEN W-26

**PACKAGING** . . . "I wish we had a buyer for one or more of six used Form-Fill-Seal packaging machines to make flat heat-sealed packages from cellophane, aluminum or other material. The machines are about 9 years old, were recently overhauled, are now operating at about $2,400.00 each. They are located in various parts of the United States at present." IEN W-27

**PRODUCTION ENGINEER** . . . "I wish I had contact with a company requiring a production engineer for work on cost surveys, production methods, tooling, administration. I have 18 years of this type of experience in the metal trades and am employed at present in Illinois. I prefer a connection west of Chicago." IEN W-28

**SPRAYER-DUSTER** . . . "I wish we had a buyer for three Buffalo turbine type sprayer-dusters, Type No. 2, mounted on 2 wheel rubber tired trailers. They were bought in 1946, have been used two months, are in New York City." IEN W-29

**STRIPPING** . . . "I wish we had a source for equipment or a satisfactory process to remove defective lacquer from pencils so the pencils can be lacquered again. We are looking for a means to do this work safely, quickly and inexpensively on a quantity basis once or twice a week." IEN W-30

**TESTING** . . . "I wish we had a buyer for one Dillon, Model K, 10,000 lb. tensile tester with standard V-block jaws and inserts for round specimen shanks over ¼ in. diameter. The equipment is in Brooklyn." IEN W-31

**WELDING** . . . "I wish we had a buyer for one Serial No. 5027, Type AF Box Frame welder, rating 200 KVA and for one Westinghouse Model-75, Type-21 sequence timer, Serial AC-1419. Both units are in excellent condition in Elwood, Indiana." IEN W-32

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